VMS Workstation Software Installation Guide

Order Number: AA-HX11H-TE

August 1989

The *VMS Workstation Software Installation Guide* provides instructions for installing Version 4.2 of the VMS Workstation Software on a VAX workstation or on a Local Area VAXcluster. It also provides information on tuning workstation parameters.

Revision/Update Information:	This manual supersedes the *VMS Workstation Software Installation Guide*, order no. AA-HX11G-TE.
Software Version:	VMS Workstation Software Version 4.2
Operating System Version:	VAX/VMS Version 5.0 or later

August 1989

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation. Digital Equipment Corporation assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.

No responsibility is assumed for the use or reliability of software on equipment that is not supplied by Digital Equipment Corporation or its affiliated companies.

Copyright ©1989 by Digital Equipment Corporation

All Rights Reserved.

The postpaid READER'S COMMENTS form on the last page of this document requests the user's critical evaluation to assist in preparing future documentation.

The following are trademarks of Digital Equipment Corporation:

DDIF
DEC
DEC/CMS
DEC/MMS
DECnet
DECUS
DECwindows
DECwrite
DIBOL
IAS
MASSBUS
PDP
PDT
RSTS
RSX
ULTRIX
UNIBUS
VAX
VAX C
VAXcluster
VAXstation
VMS
VR150/160
VT
digital™

This document was prepared using VAX DOCUMENT, Version 1.2

Contents

PREFACE vii

CHAPTER 1 GETTING STARTED 1–1

1.1 PREPARING TO INSTALL THE WORKSTATION SOFTWARE 1–1

1.2 PROCESS QUOTAS 1–2

1.3 DISK SPACE REQUIREMENTS 1–3

CHAPTER 2 INSTALLING THE VMS WORKSTATION SOFTWARE 2–1

2.1 BEGINNING THE INSTALLATION 2–1
  2.1.1 Loading from Tape 2–1
  2.1.2 Loading from a Diskette 2–2

2.2 THE INSTALLATION 2–3

2.3 AFTER THE INSTALLATION 2–8
  2.3.1 Rebooting the System 2–9
  2.3.2 Booting a Workstation Satellite into a Cluster 2–9

2.4 WHERE TO GO FROM HERE 2–10

CHAPTER 3 INFORMATION ABOUT INSTALLING ON A LOCAL AREA VAXCLUSTER 3–1

3.1 INSTALLING WORKSTATION SOFTWARE ON A NEW CLUSTER 3–1

3.2 INSTALLING WORKSTATION SOFTWARE ON AN EXISTING CLUSTER 3–2

3.3 ADDING A WORKSTATION TO A CLUSTER THAT HAS RUNNING WORKSTATIONS 3–2

3.4 INSTALLING NEW VERSIONS OF WORKSTATION SOFTWARE 3–2

CHAPTER 4 VAXSTATION MANAGEMENT AND TUNING 4–1

4.1 THE OPERATOR WINDOW 4–1
- 4.1.1 Using the Operator Window 4–1
- 4.1.2 Operator Window Functions on Color and Intensity Systems 4–2

4.2 CHANGING WINDOW MEMORY SIZE 4–2
- 4.2.1 Monochrome Systems 4–3
  - 4.2.1.1 Modifying the Default Window Memory Size • 4–4
  - 4.2.1.2 Modifying MODPARAMS.DAT • 4–4
  - 4.2.1.3 Running AUTOGEN • 4–5
- 4.2.2 Intensity and Color Systems 4–5
  - 4.2.2.1 Modifying MODPARAMS.DAT • 4–7
  - 4.2.2.2 Running AUTOGEN • 4–8

4.3 MODIFYING SYSGEN PARAMETERS 4–8
- 4.3.1 Modifying UIS$P1_POOL_SIZE and UIS$SYSTEM_POOL_SIZE 4–8
- 4.3.2 P1 Pool Expansion 4–9
- 4.3.3 Modifying the CHANNELCNT Parameter 4–10
- 4.3.4 Modifying the PQL_MASTLM Parameter 4–10
- 4.3.5 Modifying the PQL_MBIOLM and PQL_MDIOLM Parameters 4–11

4.4 ADDING USER-DEFINED FONTS TO THE WORKSTATION 4–11
- 4.4.1 Compiling a Font File 4–13
- 4.4.2 Using a Font from Within Your Process 4–13
- 4.4.3 Using a Shareable Process-Based Font 4–14
  - 4.4.3.1 Installing a Shareable Process-Based Font • 4–14
  - 4.4.3.2 Tuning the System for Shareable Fonts • 4–15
- 4.4.4 Using a System-List Font 4–15
  - 4.4.4.1 Loading a System Font • 4–16
  - 4.4.4.2 Tuning the System for System-List Fonts • 4–16

APPENDIX A VMS WORKSTATION SOFTWARE FILES AND FONTS A–1

A.1 FILES INSTALLED WITH THE WORKSTATION SOFTWARE A–1

A.2 FILES PROVIDED FOR HCUIS INSTALLATION A–2

A.3 FILES PROVIDED FOR SIGHT INSTALLATION A–3

A.4 FONTS INSTALLED WITH THE WORKSTATION SOFTWARE A–3
A.4.1 Fonts Necessary for Startup for All Font Sizes A–3
A.4.2 77 DPI Fonts Necessary for General Use A–3
A.4.3 77 DPI Fonts Not Necessary for Startup A–4
A.4.4 100 DPI Fonts Necessary for Startup A–5

A.5 SIGHT BLACK AND WHITE FONTS A–6
A.5.1 SIGHT Color Fonts A–7

APPENDIX B STANDALONE VAXSTATION II/GPX SAMPLE INSTALLATION B–1

APPENDIX C SAMPLE VWSDEMO INSTALLATION C–1

C.1 SAMPLE INSTALLATION C–1

C.2 VWSDEMO SOURCE KIT AND IMAGES KIT FILES C–3

INDEX

TABLES

1–1 Minimum Process Quotas 1–2
1–2 Peak Block Usage for Each Type of VWS Installation 1–4
1–3 UIS Description File Block Usage 1–5
1–4 Peak Block Usage Required for Font Installation 1–5
4–1 Monochrome System Defaults 4–3
4–2 Windows 4–4

4-3 Intensity and Color System Defaults 4-6
4-4 Windows 4-7
4-5 Process-based Fonts 4-12
4-6 Shareable Process-based Fonts 4-12
4-7 System Fonts 4-12
C-1 Blocks Needed to Install the VWSDEMO Kit C-1

Preface

Licensing

To run VWS on a particular node, you must have a valid VWS license loaded. If the license is not properly loaded before you invoke the VWS startup procedure, an error message appears on the console and VWS terminates. If this occurs, load the VWS license and re-invoke the VWS startup procedure.

Digital recommends you install the license before you install the software. VMS Workstation Software Version 4.2 uses the VMS License Management Facility (LMF). Refer to the VMS LMF documentation for more information on the License Management Facility.

Chapter Organization

This guide explains how to install the VMS Workstation Software (VWS) on a VAXstation. The chapters are organized as follows:

- Chapter 1 gives you information you need to prepare for the installation.
- Chapter 2 describes how to install the workstation software. It tells you how to load tape or diskettes, describes the actual installation, and tells you what to do after the installation.
- Chapter 3 provides information specific to installing the workstation software on local area VAXclusters.
- Chapter 4 provides information on tuning the workstation parameters.
- Appendix A provides a list of files and fonts installed by the VMS Workstation Software.
- Appendix B provides a listing of the system responses during an installation on a VAXstation II/GPX.
- Appendix C provides a sample installation of the VWSDEMO kit.

The VMS Workstation Software Version 4.2 relies on features in VMS Version 5.0 or higher.

If you are installing software on a VAXstation I, II, II/GPX, 3100, 3200, 3500, 2000, or color VAXstation 2000, you *must* install the VMS Version 5.0 (or later) base system software and any VMS options first.

NOTE: **The exception to this rule is any software that runs directly from diskettes, such as diagnostics.**

Associated Documents

The *VMS Version 5.0 Release Notes* contains information critical to the VMS base kit installation. Read the release notes before installing the VMS base kit.

The VMS documentation provides instructions on installing or upgrading a VMS base system.

If you are installing on a Local Area VAXcluster, refer to the *VMS VAXcluster Manual*.

If you are installing a VAXstation I or II, check the distribution media.

- If your base kit distribution volume is a tape cartridge, see *Installing or Upgrading VMS From a Tape Cartridge*.
- If your base kit is distributed on diskettes, see *Installing or Upgrading VMS From Diskettes*.

The *Read Me First* pages in your kit provide section references to guide you through each portion of the installation procedure.

After you install the VMS base system and the workstation software, see the *VMS Workstation Software User's Guide* for information about how to use the workstation software.

If you intend to work with application programs, using VMS Workstation Software graphics, consult the *VMS Workstation Software Graphics Programming Guide*.

For detailed information about how to print hard copies from the VAXstation, see the *VMS Workstation Software Guide to Printing Graphics*. For detailed information about using SIGHT, see the *VMS Workstation Software SIGHT User's Guide*.

If you want to migrate your VWS applications to DECwindows, consult the appropriate documents. See *A Guide to Migrating VWS Applications to DECwindows* for information about example applications and how to install them. See the *DECwindows/X11 Server Installation and User's Guide* for information about installing and using the DECwindows/X11 Server. See the *UIS to DDIF Converter Installation and User's Guide* for information about installing and using the UIS to DDIF Converter.

Conventions

This manual uses the following conventions in user input examples:

Conventions and Meanings

RETURN

The RETURN key is not always shown in formats and examples. Assume that you must press the RETURN key after typing a command or other input to the system, unless you are instructed otherwise.

CTRL/x

CTRL followed by a slash and a letter means that you must type the letter while holding down the CTRL key. For example, CTRL/B means hold down the CTRL key and type the letter B.

Lists

When a format item is followed by a comma and an ellipsis (, . . .), you can enter a single item or a number of items separated by commas. When a format item is followed by a plus sign and an ellipsis (+ . . .), you can enter a single item or a number of those items connected by plus signs. If you enter a list (more than one item), you must enclose the list in parentheses. A single item need not be enclosed in parentheses.

Optional Items

An item enclosed in square brackets ([ ]) is optional.

Boxes

In examples, boxes enclose user input, such as a key 2, a key sequence CTRL/Z, or a parameter password.

Ellipsis

.

.

.

.

A vertical ellipsis indicates that some of the format or example is not shown.

⌫

The key on the LK201 terminal keyboard that performs the DELETE function is labeled ⌫.

1 Getting Started

This chapter shows you how to prepare for the workstation software installation and discusses minimum process quotas and disk space requirements.

If you are installing on a local area VAXcluster, this installation guide assumes the VAXcluster is already installed. See Chapter 3 for specific information about the following:

- Installing workstation software on a new cluster
- Installing workstation software on an existing cluster
- Adding workstation software to an existing cluster
- Installing new versions of workstation software on clusters currently running workstation software

For details on installing and configuring clusters, see the *VMS VAXcluster Manual*.

When you install while using DECWindows, the installation procedure behaves as if it is running on a cluster.

Note: **Remember to back up your system *before* you install the workstation software. For backup instructions, see the operations guide for your base system.**

1.1 Preparing to Install the Workstation Software

For VMS V5.0 or later systems, the following VMS classes are required for full functionality of this layered product:

- VMS Required Saveset
- Programming Support
- VMS Workstation Support

To prepare for the workstation software installation, follow these steps:

1. Locate the workstation software media (diskettes or tape cartridge) labeled *VMS Workstation Software V4.2*.
2. Turn on the console terminal.
3. If VMS is not running, turn on the processor. (See the operator's guide for your system for booting instructions.)
4. When the system displays the *job terminated* message, press RETURN. The Username: prompt appears.
5. Log in to the system manager account as follows:

```
Username: SYSTEM
```

If a password has been set for the SYSTEM account, you are prompted for it. Enter the appropriate password.

6 If the System Manager menu appears, exit to DCL by entering 1. The DCL prompt ($) appears.

```
Main Menu

  1 - Exit to DCL
  2 - Log out of the system account
  3 - Invoke the MAIL utility
  4 - Invoke the PHONE utility
  5 - Add a user account to the system
  6 - Install optional software
  7 - Add or Delete a VMS component
  8 - Create or Modify an Autologin Terminal
  9 - Back up or Restore the user files on a disk
 10 - Build a Standalone BACKUP kit
 11 - Set the maximum number of interactive logins
 12 - Configure the network
 13 - Start up or shut down the network
 14 - SHUT DOWN the system

Enter a number (? or ?# for HELP):
```

7 Make sure your system meets the minimum process quota requirements needed to perform a successful installation. (See the next two sections for process quotas and disk space requirements.)

1.2 Process Quotas

Your system must meet the minimum process quota requirements for the installation to perform successfully. If the process quotas are too low, the installation will fail. Table 1-1 shows the minimum process quotas your system needs to perform a successful installation:

Table 1-1 Minimum Process Quotas

Process Name	Minimum Blocks
Open File *(Fillm)*	20
Paging File *(Pgflquo)*	1500
Subprocess *(Prclm)*	2
Working Set *(Wsquo)*	250 (400-500 optimum)

To check the quotas for your system account, enter the following at the DCL prompt:

```
$ SHOW PROCESS/QUOTA
28-DEC-1988 11:04:18.37   RTA1:              User: SYSTEM
```

```
Process Quotas:
 Account name: SYSTEM
 CPU limit:                      Infinite  Direct I/O limit:         128
 Buffered I/O byte count quota:    160000  Buffered I/O limit:         40
 Timer queue entry quota:              20  Open file quota:           110
 Paging file quota:                 66591  Subprocess quota:           10
 Default page fault cluster:           64  AST quota:                 598
 Enqueue quota:                       199  Shared file limit:           0
 Max detached processes:                0  Max active jobs:             0
$
```

To determine the authorized working set, enter the following DCL command:

```
$ SHOW WORKING_SET
  Working Set      /Limit= 264   /Quota= 528    /Extent= 2048
  Adjustment enabled    Authorized Quota= 528  Authorized Extent= 2048
$
```

To change any of the above values, run the VMS Authorize utility. Enter the following commands at the DCL prompt:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
```

The system responds with the UAF> prompt. Change a value by entering the following command:

```
UAF> MODIFY SYSTEM/limit=new_value
```

For Example:

```
UAF> MODIFY SYSTEM /PGFLQUO=1500
 Exit from Authorize as follows:
UAF> EXIT
```

To put the new values into effect, log out and log in again.

1.3 Disk Space Requirements

You should have enough disk space available on your system disk to install whatever parts of the kit you want. The installation lets you choose what you want to install at any one time. This way if you have a small disk system, you can install the VWS software one piece at a time. The disk space requirements for each part of the VWS kit are given in Table 1–2.

You must decide which type of installation to perform and then add together the values from Table 1–2 to make sure you have enough free blocks on your system disk to perform the installation.

The following list summarizes each type of installation you can choose:

- VWS Images—Installs onto your system the bare minimum executables needed to run the VWS software.
- VWS Language Description Files—Let you program using the UIS functions described in the *VWS Graphics Programming Guide*. The installation procedure displays a list of supported languages. You can choose from the list the languages in which you want description files built.

- VWS Graphics Programming Guide Examples—Are the FORTRAN examples in the *VWS Graphics Programming Guide*. If you are installing VWS for the first time, you might want to install these to help you in your initial UIS programming.
- VWS Fonts—Are the files VWS uses to display text. These files are necessary if you are installing for the first time. The fonts come in two types of density: 77 Dots Per Inch (DPI) and 100 DPI. The 77-DPI fonts are for 19-inch monitors. The 100-DPI fonts are for 15- and 16-inch monitors and for systems with an AVSS device.
- HCUIS Images—Is a package that lets you output your UIS Images to supported hard-copy devices.
- SIGHT Images— Is a simple graphics editor that lets you create, save, and read basic graphics objects. However, SIGHT only reads in files that it creates.
- SIGHT Fonts— Are the fonts the SIGHT editor uses. If you are installing SIGHT for the first time you must install these fonts.

To find out the number of free blocks you have on your system disk, enter the following DCL command:

```
$ show device sys$sysdevice:

Device                   Device           Error    Volume         Free  Trans Mnt
 Name                    Status           Count     Label        Blocks Count Cnt
DUA0:                    Mounted              0  SYSDISK          26058   131   1
$
```

If the number under the Free Blocks heading is smaller than the number of blocks you need to install, then do not install every part of the kit now or try to free up some blocks on your system disk.

To determine the number of blocks you need for your installation, start with a base of 800 (the number of blocks needed to get the initial saveset onto the system). Then add to the 800 the numbers from the following tables to determine the total number of blocks.

Table 1–2 lists peak block usage for each type of VWS installation:

Table 1–2 Peak Block Usage for Each Type of VWS Installation

Installation Choice	Free Blocks Needed to Complete Installation Successfully
Initial Saveset	800
VWS Images	3600
VWS Language Description Files	2400 + Table 1–3
VWS Programming Guide Examples	450
VWS Fonts	See Table 1–4
HCUIS Images	2200
SIGHT Images	450
SIGHT Fonts	See Table 1–4

Table 1–3 lists UIS description file block usage:

Table 1–3 UIS Description File Block Usage

Language	Number of Blocks[1]
ADA	1500
BLISS	350
C	750
FORTRAN	375
MACRO	150
PASCAL	825
PL/I	850

[1] These numbers might vary slightly according to the system. In general, the numbers closely approximate the actual number of blocks required.

Table 1–4 lists peak block usage required for installing fonts:

Table 1–4 Peak Block Usage Required for Font Installation

	Font Type		
Type of System	**77 DPI**	**100 DPI**	**SIGHT**
Monochrome	1350	750	1250
Color or Intensity	2350	1350	1975
Clustered	3700	2100	3250

2 Installing the VMS Workstation Software

This chapter explains how to install the VMS Workstation Software. The first section explains how to load the software. The second section describes the installation. The third section tells you what to do after the installation.

If you are installing on a local area VAXcluster, this installation guide assumes the VAXcluster is already installed. See Chapter 3 for specific information about the following:

- Installing workstation software on a new cluster
- Installing workstation software on an existing cluster
- Adding workstation software to an existing cluster
- Installing new versions of workstation software on clusters currently running workstation software

When you install while running DECWindows, the installation procedure behaves as if it is running on a cluster.

2.1 Beginning the Installation

This section describes how to use the VMSINSTAL command procedure to load the workstation software. Make sure you have prepared the system for installation, as described in Chapter 1.

NOTE: **Appendix B contains a sample installation on a standalone VAXstation II/GPX.**

2.1.1 Loading from Tape

If you are installing from a tape cartridge, enter the following command to invoke the VMSINSTAL command procedure:

```
$ @SYS$UPDATE:VMSINSTAL VWS042 ddcu:
```

where:

dd = Device mnemonic (MU, DU, and so on)
c = Controller number (letter A, B, C, and so on)
u = Unit number (0, 1, and so on)

You might receive the following messages, depending on what is running on your system at the time. If the information in the messages is correct, answer YES to the two questions that follow the messages.

NOTE: **Only one question might be asked.**

```
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
 _WTA1:
 SYSTEM
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]?

Please mount the first volume of the set on  ddcu:.
* Are you ready? YES
         .
         .
         .
```

Load the tape cartridge labeled *VWS042* into the tape drive. Type Y after the prompt and press RETURN. The installation proceeds without your having to load a second tape cartridge.

2.1.2 Loading from a Diskette

If you are installing from diskettes, enter the following command to invoke the VMSINSTAL command procedure:

```
$ @SYS$UPDATE:VMSINSTAL VWS042 ddcu:
```

where:

ddcu: = Device controller unit; for example, DUA1:

You might receive the following messages, depending on what is running on your system at the time. If the information in the messages is correct, answer YES to the two questions that follow the messages.

NOTE: Only one question might be asked.

```
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
 _WTA1:
 SYSTEM
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]?

Please mount the first volume of the set on  ddcu:.
* Are you ready? YES
         .
         .
         .
```

a. Load the first diskette labeled *VMS/WS/SW V42 1/10* into Drive 1. Type Y after the prompt and press RETURN. The installation proceeds until VMSINSTAL is ready for the next volume of the set. VMSINSTAL prompts you to load the successive volumes, until the last diskette has been loaded. For example:

```
%BACKUP-I-READYREAD, mount volume 2 on ddcu: for reading.

Enter "YES" when ready:
```

b. Remove the first diskette from Drive 1 and store it in its envelope. Load the workstation software diskette labeled *VWS/WS/SW V42 2/10* into Drive 1. Enter Y to indicate that the second diskette is ready to be processed. After the last diskette has been loaded, the installation proceeds. Do not remove the last diskette until the installation has completed.

2.2 The Installation

After you load the tape or diskette, VMSINSTAL begins the installation and displays a series of messages about the products being installed. For example:

```
%MOUNT-I-MOUNTED, VWS042 mounted on _MUA0:

The following products will be processed:
  VWS V4.2

 Beginning installation of VWS V4.2 at 11:07

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED, The product's release notes have been
successfully moved to SYS$HELP.

If you would like to read the release notes before continuing this
installation you may do one of two things.  You can either log into
your system through another terminal and type out the file
SYS$HELP:VWS042.RELEASE_NOTES, or you may answer "NO" to all of the
following questions, which will not install anything on your system,
then type out the file SYS$HELP:VWS042.RELEASE_NOTES.

    Installing VMS Workstation Software - V4.2

    Product:       VWS
    Producer:      DEC
    Version:       V4.2
    Release Date:  14-AUG-1989

* Does this product have an authorization key registered and loaded? Y
License confirmed
```

If you do not have a VMS Workstation Software license installed for your system, you receive the following message:

```
You currently do not have a VWS license installed.  You
can choose to continue with the VWS installation now;
however, without a VWS license installed, you will not
be able to bring up the VWS software.

Would you like to exit to install a VWS license [Y] ?
```

If you answer NO to the above query, the installation continues but you cannot bring up the VWS software. If you answer YES to the above query, you receive the following message:

```
You have chosen to exit this installation. To install the VWS
license, invoke the procedure SYS$UPDATE:VMSLICENSE.COM.

You are currently running under DECWindows.  You may now choose to
exit from this VWS installation, or you may continue.  However, if
you choose to continue the installation will continue as it would
for a cluster installation of VWS, hence you will get both Black &
White and Color fonts and it will be up to you to reboot your system.
```

NOTE: **After you invoke the SYS$UPDATE:VMSLICENSE.COM command procedure, you must restart the VWS installation from the beginning.**

The installation procedure now asks a series of questions to find out what you want to install on your system. Keeping in mind the number of blocks needed for each installation, answer the questions appropriately. If you have enough blocks to do a complete installation, you should do so. If you do not have enough blocks at one time to complete the installation, you should do the installation in sections. (Installing in sections, though, might take a little more time than doing a complete installation.)

The VWS kit installation is divided into three parts: VWS, HCUIS, and SIGHT. The VWS part includes:

- VWS images
- VWS fonts
- Language description files
- Some demonstration (demo) programs that are in the *VWS Graphics Programming Guide*

The HCUIS and SIGHT parts include all images needed to use those options of the Workstation Software.

- Step 1—The first question asks if you want to install any part of the base VWS kit. Answer NO if you do not want to install any part of the base VWS kit, but do want to install either HCUIS or SIGHT. (You cannot install HCUIS or SIGHT unless VWS is already installed.) If you answer NO, the installation procedure will not display any prompts for the VWS options. Instead the installation procedure will skip to the HCUIS option (Step 2).

```
* Would you like to install any part of the VWS kit [Y]?
```

- Step 1a— The installation procedure now asks four questions about which parts of the VWS kit you want installed. The first question asks is if you want the VWS images. If this is a first-time installation, you should answer YES to install the images. If you have already installed the images, you should answer NO and go to Step 2.

  An AUTOGEN will be run at the end of this installation. The installation procedure gives you the choice of running AUTOGEN with or without FEEDBACK. If you want to run AUTOGEN with FEEDBACK, answer YES to the following question. If you do not want to run AUTOGEN with FEEDBACK, press RETURN. (See *The Guide to Setting up VMS* for more information on FEEDBACK.) The default is to run AUTOGEN without FEEDBACK.

NOTE: The default for the FEEDBACK question is NO.

```
*  Install the VWS images [Y]?
*       Would you like to run AUTOGEN with FEEDBACK [N]? Y
```

- Step 1b—The next question deals with the Programming Description files that let you program using the UIS calls described in the *VWS Graphics Programming Guide*. If you do not want to install any of these files, answer NO and go to Step 1c.

```
* Install the VWS Programming Description files [Y]?
```

If you answered YES to the last question, the installation procedure displays the following question:

```
  This installation builds description files you
  need when you use the UIS programming interface.
*     Would you like all the description files built [Y]?
```

If you answer YES to the question, the installation procedure asks the following:

```
    You have chosen the following languages:
    (ADA,BLISS,CC,FORTRAN,MACRO,PASCAL,PLI)
*   Is this OK [Y]?
```

If this is okay, answer YES and go to Step 1c.

If you answer NO, you will go through the following sequence of questions. They let you choose the languages for which you want description files.

```
  Please enter Yes (Y) or No (N) if you want files built
  for the following languages:
*       ADA [N]?
*       BLISS [N]? Y
*       CC [N]? Y
*       FORTRAN [N]? Y
*       MACRO [N]? Y
*       PASCAL [N]? Y
*       PLI [N]?
    You have chosen the following languages:
    (BLISS,CC,FORTRAN,MACRO,PASCAL)
*   Is this OK [Y]?
```

The installation procedure asks you again if this is okay. If you answer NO, the installation procedure restarts the language questions, lists the languages, and lets you choose the ones you want.

- Step 1c—The next question deals with the FORTRAN programming examples found in the *VWS Graphics Programmming Guide*. If you want to include the files on your system, answer YES.

```
*       Install book examples from the VWS Graphics Programming
        Guide [Y]?
```

- Step 1d—The next question deals with the VWS Fonts. The installation procedure asks if you want to install the fonts. If you answer YES, it asks which density fonts you want. The 77-DPI (Dot Per Inch) fonts are generally used for 19-inch monitors (VR 260, VR 290). The 100-DPI fonts are for 15- and 16-inch monitors (VR 150, VR160).

```
* Install the VWS fonts [Y]?
*     Install the 77 DPI fonts [Y]?
*     Install the 100 DPI fonts [Y]?
```

- Step 2—This question deals with the HardCopy UIS images. HardCopy UIS lets you output UIS Images to a supported hardcopy device. If you want HardCopy UIS installed on your system, answer YES.

  ```
  * Would you like to install HCUIS [Y]?
  ```

- Step 3—This question deals with SIGHT, which is a simple graphics editor. If you want SIGHT installed, answer YES. The installation procedure then asks if you also want the SIGHT fonts installed. The SIGHT fonts are necessary for SIGHT to work because SIGHT does not use the regular VWS fonts. If this is the first time you are installing SIGHT, you must install the fonts.

```
* Would you like to install SIGHT [Y]?
*  Install the SIGHT fonts [Y]?

No further questions will be asked during the installation.
```

This is the last question. After you answer it, the installation procedure does the following:

- Completes restoring the workstation savesets for the requested type(s) of installation.
- If you are a STANDALONE workstation not running DECWindows and selected to install the VWS images, runs AUTOGEN and then performs a system SHUTDOWN.
- If you are in a clustered environement or are currently running DECWindows, tells you what to do to bring up the latest VWS for each system.

The following is an example of messages you might receive during your installation. The example is for a full installation on a standalone system.

```
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSHLP.EXAMPLES.VWS].
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...

     Installing some keyboard macro examples on your system.

     Putting the GRAPHIC PROGRAMMING GUIDE book examples onto
     your system, they will be in the SYS$EXAMPLES directory.
     These files are all named book_*.for.

%VMSINSTAL-I-RESTORE, Restoring product saveset E ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSHLP.EXAMPLES.HCUIS].

     The file HCUISDEVICES.COM has been copied to your
     SYS$MANAGER directory with the  name HCUISDEVICES_NEW.COM.
     Please  edit this file as described in the Guide to
     Printing Graphics and  rename it  to HCUISDEVICES.COM.
     You may wish to consult the existing  version of
     HCUISDEVICES.COM when editing HCUISDEVICES_NEW.COM.

%VMSINSTAL-I-RESTORE, Restoring product saveset F ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSHLP.EXAMPLES.SIGHT].
```

```
          NOTE: SIGHT includes a startup command procedure, located
          in SYS$COMMON:[SYSMGR] called SIGHT$STARTUP.COM.  This
          procedure should be invoked from
          SYS$COMMON:[SYSMGR]SYSTARTUP_V5.COM during system startup.

 Installing the fonts for your system.

%VMSINSTAL-I-RESTORE, Restoring product saveset H ...
%VMSINSTAL-I-RESTORE, Restoring product saveset J ...
%VMSINSTAL-I-RESTORE, Restoring product saveset L ...
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
directories...
```

NOTE: Occasionally during the move-file phase, the installation procedure displays the following message:

```
%SYSTEM-W-NOSUCHFILE, no such file
\VMI$ROOT:[SYSLIB]UISSHR.EXE\
```

You can safely ignore the message

```
        HCUIS Installation Verification Procedure

%HCUIS-S-IVPPASS, the HCUIS installation has passed the IVP

        SIGHT Installation Verification Procedure

%SIGHT-S-IVPPASS, the SIGHT installation has passed the IVP

 VWS Installation Verification Procedure

%VWS-S-IVPPASS, the VWS installation has passed the IVP

      Installation of VMS Workstation Software V4.2 is now
      complete.

    The VMS AUTOGEN procedure will now be automatically run so
    that your SYSGEN parameters will be set and your system
    will be properly configured.  After that, your system
    will be automatically shut down.

    When the shut down is complete, press the HALT button and
    then reboot the system.

    After your system has been rebooted and initialized, the
    brief appearance of a "Getting Started" window on the
    screen will indicate successful installation of the
    workstation software.

    If necessary, you can recall the window by pressing any key
    on the keyboard when there are no windows on the
    workstation screen.

    If you are reinstalling the VWS software, the UISBG.DAT
    (menu customization) and UISSETUP.DAT (workstation setup)
    files you used previously have been renamed to UISBG.DAT;-1
    and UISOLDSETUP.DAT respectively.  The ReGIS setup file
    UIS$SETUP_VT240.COM has also been renamed to
    UIS$SETUP_VT240.COM;-1


 Installation of VWS V4.2 completed at 11:38

%VMSINSTAL-I-REBOOT, This product requires that the system be
rebooted.
 SHUTDOWN -- Perform an Orderly System Shutdown
%SHUTDOWN-I-BOOTCHECK, Performing reboot consistency check...
%SHUTDOWN-I-CHECKOK, Basic reboot consistency check completed
```

```
%SHUTDOWN-I-OPERATOR, This terminal is now an operator's console.
%SHUTDOWN-I-DISLOGINS, Interactive logins will now be disabled.
%SET-I-INTSET, login interactive limit = 0, current interactive
value = 2
%SHUTDOWN-I-SHUTNET, The DECnet network will now be shut down.
%SHUTDOWN-I-STOPQUEMAN, The queue manager will now be stopped.

%SHUTDOWN-I-SITESHUT, The site-specific shutdown procedure will
now be invoked.
%SHUTDOWN-I-STOPUSER, All user processes will now be stopped.
                .
                .
                .
```

For a clustered system or one currently running DECWindows, you will see the following text:

```
    Installation of VMS Workstation Software V4.2 is now
    complete.

    You must now run the VMS AUTOGEN procedure for each
    satellite in your cluster.  To run this procedure type the
    following from the system account of each satellite:

 @SYS$UPDATE:AUTOGEN SAVPARAMS SETPARAMS NOFEEDBACK

    This procedure will shut down the satellite.  When the shut
    down has been completed, press the HALT button and then
    reboot the system.

    After your system has been rebooted and initialized, the
    brief appearance of a "Getting Started" window on the
    screen will indicate successful installation of the
    workstation software.

    If necessary, you can recall the window by pressing any key
    on the keyboard when there are no windows on the
    workstation screen.

    If you are reinstalling the VWS software, the UISBG.DAT
    (menu customization) and UISSETUP.DAT (workstation setup)
    files you used previously have been renamed to UISBG.DAT;-1
    and UISOLDSETUP.DAT respectively.  The ReGIS setup file
    UIS$SETUP_VT240.COM has also been renamed to
    UIS$SETUP_VT240.COM;-1

The installation of VWS V4.2 has completed at 12:27
```

2.3 After the Installation

When the installation finishes, do the following:

1. Remove last diskette (or the tape cartridge) and store the distribution media.
2. If you are installing on a local area VAXcluster, configure the cluster using the CLUSTER_CONFIG.COM command procedure. (See the *VMS VAXcluster Manual* for details.)
3. Reboot or restart the system or boot the workstation satellite.

Each process is described in the following subsections.

NOTE: **VWS 4.1 and later use a new method for invoking the VWS startup file STARTVWS.COM. Previous versions of VWS inserted the command @SYS$STARTUP:STARTVWS.COM into the system startup file**

SYSTARTUP_V5.COM. VWS now uses the SYSMAN utility to include the file in the VMS layered product startup database.

The actual startup occurs *after* STARTUP_V5.COM is processed instead of while it is being processed. You should be aware of this change if your system startup procedure has any dependencies on invoking and timing STARTVWS.COM. You can still define UIS$* logical names within SYSTARTUP_V5.COM because the logical names are defined before STARTVWS.COM is invoked.

To ensure that VWS will start correctly, make sure that any previous references to STARTVWS have been removed from SYSTARTUP_V5.COM. You should also make sure your SYSTARTUP_V5.COM does *not* exit by executing a $LOGOUT command.

2.3.1 Rebooting the System

You must reboot the system if you installed on any of the following systems:

- VAXstation 2000
- VAXstation 3100
- VAXstation 3200
- VAXstation 3500
- VAXstation II
- VAXstation II/GPX

To reboot the system, press Halt. When the console-mode prompt (>>>) appears, type B.

```
>>> B
```

Wait several minutes while the system starts up. Several messages appear on the screen, beginning with the following:

```
The VMS system is now executing the site-specific startup commands.
```

After startup is completed, the system issues a *job terminated* message. The screen display goes dark for a few minutes, then changes to a shaded area with a black pointer.

NOTE: **If you are starting up a color or intensity system and the system is inactive following the *job terminated* message, you might need to press F2 (operator window) to change the screen display. Section 4.1 provides a detailed description of the operator window.**

2.3.2 Booting a Workstation Satellite into a Cluster

If you install on a local area VAXcluster, you must boot the workstation satellite. When you boot a workstation satellite on a cluster that has been configured and has the workstation software installed on the boot node, the satellite *automatically* boots as a workstation.

To boot a satellite for a VAXstation I, VAXstation II, VAXstation II/GPX, VAXstation 3200, or VAXstation 3500, enter the following command:

```
>>> B XQ
```

To boot a satellite for a VAXstation 2000 or VAXstation 3100, enter the following command:

```
>>> B ES
```

When you boot the satellite, it does the following:

1 Displays a series of startup messages, ending with a *job terminated* message.

2 Clears the screen display while the workstation software is loading.

  You should not attempt to log in at this point; wait a few minutes for the next step to occur.

3 Changes the screen display to a shaded area with a black pointer.

NOTE: If you are starting up a color or intensity system and the system is inactive following the *job terminated* message, you might need to press F2 (operator window) to change the screen display. Section 4.1 provides a detailed description of the operator window.

2.4 Where to Go from Here

After all software is installed, see the *VMS Workstation Software User's Guide* for information about how to use the workstation software.

When you are familiar with VMS Workstation Software, proceed to the *VMS User's Manual*, which contains information about the rest of the VMS operating system.

If you are the only user or the system manager for your VAXstation, read the sections of the *VMS User's Manual* that discuss setting up accounts, startup and login procedures, backups, and disk management. If you have the DECnet option, you should also read the section on DECnet.

For information about how to tune the VMS Workstation Software, see Chapter 4.

Install VWSDEMO for information on how to program in UIS. See Appendix C for a sample installation of VWSDEMO.

3 Information about Installing on a Local Area VAXcluster

This chapter contains information specific to installing on a Local Area VAXcluster. Read the *VMS VAXcluster Manual* before continuing with this chapter.

You can install software on a cluster in any of the following ways:

1. Installing workstation software on a new cluster
2. Installing workstation software on an existing cluster
3. Adding a workstation to a cluster that already has workstation software
4. Installing new versions of workstation software on clusters currently running workstation software

The details of installing and configuring clusters is contained in the *VMS VAXcluster Manual*. The following procedures briefly list steps that are described in detail in that book.

NOTE: **When you install while running DECWindows, the installation procedure behaves as if it is running on a cluster.**

3.1 Installing Workstation Software on a New Cluster

To install workstation software on a new cluster, follow these steps:

1. Install the VMS system on the cluster boot node. See the *VMS VAXcluster Manual*.
2. Install the workstation software on the cluster boot node. See Section 2.2.
3. Invoke the CLUSTER_CONFIG.COM command procedure to configure the cluster satellite members. See the *VMS VAXcluster Manual*.
4. Boot the satellites, as follows:
    - To boot a VAXstation I, VAXstation II, VAXstation II/GPX, VAXstation 3200, or VAXstation 3500 enter the following:

      ```
      >>> B XQ
      ```

    - To boot a VAXstation 2000 or VAXstation 3100, enter the following:

      ```
      >>> B ES
      ```

   Satellites that are workstations *automatically* boot, using the workstation software.

3.2 Installing Workstation Software on an Existing Cluster

When a cluster does not have workstations, it does not need workstation software. However, when you decide to add workstations to the cluster, you must install workstation software. To install workstation software on an existing cluster, follow these steps:

1. Install the workstation software on the cluster boot node. See Section 2.2.
2. Invoke the CLUSTER_CONFIG.COM command procedure to configure the new cluster satellite members. See the *VMS VAXcluster Manual.*

3.3 Adding a Workstation to a Cluster That Has Running Workstations

To add a workstation to a cluster that already has running workstations, invoke the CLUSTER_CONFIG.COM command procedure to configure the new workstation. See the *VMS VAXcluster Manual.*

3.4 Installing New Versions of Workstation Software

To install new versions of workstation software on clusters currently running workstation software, follow these steps:

1. Install the new version of the workstation software on the cluster boot node. See Section 2.2.
2. Reboot the satellites, as follows:
   - To boot a VAXstation I, VAXstation II, VAXstation II/GPX, VAXstation 3200, or VAXstation 3500, enter the following:

     ```
     >>> B XQ
     ```

   - To boot a VAXstation 2000 or VAXstation 3100, enter the following:

     ```
     >>> B ES
     ```

   Any satellites that are workstations *automatically* boot, using the new version of the workstation software. If the current SYSGEN parameters are wrong for the new version, the startup procedure displays the incorrect parameters and asks if you want to automatically run AUTOGEN.

4 VAXstation Management and Tuning

This chapter explains how to tune VMS Workstation Software. Refer to this chapter, for example, when you want to modify parameters of the VMS System Generation Utility (SYSGEN).

You can use logical names to control certain VWS parameters and resource usage. The logical names must be invoked *before* the VWS startup file STARTVWS.COM is invoked. Because the system startup file SYSTARTUP_V5.COM is invoked before STARTVWS.COM, your system manager should edit SYSTARTUP_V5.COM to place the necessary commands there.

In addition, Section 4.1.1 and Section 4.1.2 describe the function of the operator window on the VAXstation. If you are the system manager of your VAXstation or if you intend to perform tasks that involve rebooting the system (such as modifications to some SYSGEN parameters), you need to be familiar with the operator window.

4.1 The Operator Window

The operator window on the VAXstation, OPA0, is a viewport to both the console and the operator terminal. When the VMS operating system is halted, you can use the operator window to enter commands at the console-mode prompt (>>>). When VMS is running (but the workstation software is not), you can use the window to log in to OPA0. The operator window is dependent only on the VMS base system and is different from the workstation software terminal emulator windows. OPA0 is not a full-function terminal.

The operator window appears at the top of the VAXstation screen, regardless of whether the workstation software is running. If you were to install VMS without the workstation software, the entire screen would be dark and OPA0 would be your only means of logging in to the system.

4.1.1 Using the Operator Window

The operator window appears on your VAXstation screen in the following two instances:

- When you press the F2 function key

  Pressing this key displays messages sent to the operator device (OPA0). For example, if you try to print on a remote device that is not accessible, the software sends a message to OPA0.

  To erase the operator display, press the F2 function key.

- When a message is sent to OPA0

When a message is sent to OPA0 (for example, a message that says a device is off-line), the operator window automatically appears; however, the keyboard does not automatically connect to the window. The keyboard connects to the operator window only if the display manager process has not yet been started.

Once you log in to OPA0, keyboard input is directed to the window until you log out of that process.

To erase the operator window display, press the F2 function key.

NOTE: **In a Local Area VAXcluster, messages to OPA0 are disabled on all workstations.**

4.1.2 Operator Window Functions on Color and Intensity Systems

The operation of the operator window is not the same on color and intensity systems as it is on monochrome systems. The following characteristics are unique to color and intensity systems:

- Writing or drawing to the screen does not continue while the operator window is present.
- The operator window is automatically removed 30 seconds after it becomes active.
- When the system boots or fails, the entire screen is used as the operator window. The windowing system does not appear until the startup procedure has completed.

  Because the operator window covers the monitor screen, the system might appear to be hung at startup or shutdown time. If a message is written to the operator window, the window remains on the screen for 30 seconds (or until you press the F2 function key).
- The screen color changes when the operator window appears. To return the screen to its original colors, remove the operator window from the screen, using the F2 function key.
- The data in the operator window is lost when the operator window is erased from the screen.

4.2 Changing Window Memory Size

If your system fails frequently or if your processes are being deleted when you have a large number of windows on your screen, a problem might exist with the amount of memory allocated for use by windows.

You can change the window memory size to support more or fewer windows, as described in the following sections.

4.2.1 Monochrome Systems

On monochrome systems, the initial default value supports about 14 concurrent normal size (24-line) VT220 windows, or about 5 full-screen windows. (The number of possible windows varies according to window size.) Windows partially off the screen require twice as much window memory as those completely on the screen. Table 4-1 lists monochrome system logical and default values.

Table 4-1 Monochrome System Defaults

System Logical	Default Value
UIS$SYSTEM_POOL_SIZE	1024
UIS$P1_POOL_SIZE	256000
UIS$QVSS_POOL_SIZE	900972
SYSGEN Parameter	**Default Value**
CHANNELCNT	400
CTLPAGES	1500
GBLPAGES	10
GBLPAGFIL	10
GBLSECTIONS	216
MAXBUF	2048
NPAGEDYN	219648
NPAGEVIR	659968
PAGEDYN	1703936
PROCSECTCNT	64
PQL_MASTLM	600
PQL_MBIOLM	0
PQL_MBYTLM	10000
PQL_MDIOLM	100
PQL_DPGFLQUOTA	8192
SPTREQ	2500

To enable the system to support more windows than the default, follow these steps:

1. Modify the default window memory size by redefining the logical name UIS$QVSS_POOL_SIZE. Table 4-2 lists values to support various numbers of windows.
2. Modify the file MODPARAMS.DAT to increase the value of the SYSGEN parameter PAGEDYN. Table 4-2 lists correct values to be added to PAGEDYN to support various numbers of windows.

3 Run AUTOGEN to enable the new PAGEDYN parameter value. You do not run SYSGEN to modify the parameter.

Table 4–2 Windows

Number of Windows	New UIS$QVSS_POOL_SIZE Value	New ADD_PAGEDYN Value
14	900972	0
20	1351532	711532
25	1854172	1214172
30	2476812	1836812

Table 4–2 assumes the average window size of a 24-line VT220 terminal emulator window. Full-screen windows require an extra 60,000 bytes for each window. Smaller windows require about 25,000 bytes fewer for each window.

The following sections describe the steps for modifying UIS$QVSS_POOL_SIZE and MODPARAMS.DAT and for running AUTOGEN.

4.2.1.1 Modifying the Default Window Memory Size

To modify the default window memory size, follow these steps:

1. Create a terminal emulator window and log in to the SYSTEM account or a privileged user account.
2. Invoke the editor as follows:

   ```
   $ EDIT SYS$MANAGER:SYLOGICALS.COM
   ```

3. Define the logical name UIS$QVSS_POOL_SIZE to be equal to the appropriate value from Table 4–2.

   ```
   $ DEFINE/SYSTEM/EXEC UIS$QVSS_POOL_SIZE new_value
   ```

   For example, to support 20 windows on your system, define the logical name UIS$QVSS_POOL_SIZE to be 1351532 by entering the following:

   ```
   $ DEFINE/SYSTEM/EXEC UIS$QVSS_POOL_SIZE 1351532
   ```

4. Exit from the editor.

4.2.1.2 Modifying MODPARAMS.DAT

To modify MODPARAMS.DAT, follow these steps:

1. Invoke the editor as follows:

   ```
   $ EDIT SYS$SYSTEM:MODPARAMS.DAT
   ```

2. Move the cursor to the end of the file.
3. Add the appropriate value from Table 4–2 to the current value of PAGEDYN, using the following syntax:

   ```
   ADD_PAGEDYN= n
   ```

For example, to support 20 windows on your system, add 711532 to the current value of PAGEDYN by entering the following:

```
ADD_PAGEDYN= 711532
```

4 Exit from the editor.

4.2.1.3 Running AUTOGEN

To enable the new parameter value, run AUTOGEN by entering the following command:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
```

AUTOGEN alters the parameters, then automatically shuts down and reboots the system.

4.2.2 Intensity and Color Systems

On intensity and color systems, window memory is stored in permanent system global page file sections. Normal size windows (24 lines) require 12 global sections at 55 pages/global section. A full-screen window requires 32 global sections at 55 pages/global section.

The initial default value supports about 13 concurrent 24-line VT220 windows, or about five full-screen windows. (The number of windows varies, according to their size.) Table 4–3 lists intensity and color system logicals and default values provided by VMS Workstation Software.

Table 4–3 Intensity and Color System Defaults

System Logical	Default Value
UIS$SYSTEM_POOL_SIZE	1024
UIS$P1_POOL_SIZE	512000
UIS$QVSS_POOL_SIZE	256000

SYSGEN Parameters	Default Value
CHANNELCNT	400
CTLPAGES	1500
GBLPAGES	17600
GBLPAGFIL	17600
GBLSECTIONS	512
MAXBUF	2048
NPAGEDYN	419840
NPAGEVIR	1259520
PAGEDYN	3072000
PROCSECTCNT	64
PQL_MASTLM	600
PQL_MBIOLM	40
PQL_MBYTLM	10000
PQL_MDIOLM	100
PQL_DPGFLQUOTA	8192
SPTREQ	2500

To enable the system to support more windows than the default, follow these steps:

1. Modify the default window memory size by redefining the logical name UIS$QVSS_POOL_SIZE. Table 4–4 lists values to support various numbers of windows.
2. Modify the file MODPARAMS.DAT to increase the value of the SYSGEN parameter PAGEDYN. Table 4–4 lists correct values to be added to PADEDYN to support various numbers of windows.
3. Modify the file MODPARAMS.DAT to increase the SYSGEN parameters GBLPAGES and GBLPAGFIL, as follows:
    - Increase each parameter by 660 for each additional 24-line window.
    - Increase each parameter by 1760 for each additional full-screen window.
4. Modify the file MODPARAMS.DAT to increase the SYSGEN parameter GBLSECTIONS, as follows:
    - Increase the parameters by 12 for each additional 24-line window.

- Increase the parameters by 32 for each additional full-screen window.

5 Modify the file MODPARAMS.DAT to increase the SYSGEN parameter NPAGEDYN by 25,000 for each additional window, regardless of window size.

6 Run AUTOGEN to enable the new parameter values. You do not run SYSGEN to modify these parameters.

Table 4–4 Windows

Number of Windows	New UIS$QVSS_POOL_SIZE Value	New ADD_PAGEDYN Value
13	256000	0
15	373380	197380
20	807840	831840
25	1522300	1746300
30	2586760	3010760

The following sections describe the steps for modifying the parameters in MODPARAMS.DAT and for running AUTOGEN.

4.2.2.1 Modifying MODPARAMS.DAT

To modify MODPARAMS.DAT, follow these steps:

1 Create a terminal emulator window and log in to the SYSTEM account or a privileged user account.

2 Invoke the editor as follows:

```
$ EDIT SYS$SYSTEM:MODPARAMS.DAT
```

3 Move the cursor to the end of the file.

4 Add 660 (for each additional 24-line window) to the current values of GBLPAGES and GBLPAGFIL, using the following syntax:

```
ADD_GBLPAGES= n
ADD_GBLPAGFIL= n
```

For example, to support two additional 24-line windows, you would enter the following:

```
ADD_GBLPAGES= 1320
ADD_GBLPAGFIL= 1320
```

5 Add 12 (for each additional 24-line window) to the current value of GBLSECTIONS, using the same syntax as above. For example, to support two additional 24-line windows, you would enter the following:

```
ADD_GBLSECTIONS= 24
```

6 Add 25,000 to the current value of NPAGEDYN for each additional window. For example, to support two additional normal-sized windows, you would enter the following:

```
ADD_NPAGEDYN= 50000
```

7 Add the appropriate value from Table 4-4 to the current value of PAGEDYN, using the following syntax:

```
ADD_PAGEDYN= n
```

For example, to support 15 windows on your system, add 197380 to the current value of PAGEDYN by entering the following:

```
ADD_PAGEDYN=197380
```

8 Exit from the editor.

4.2.2.2 Running AUTOGEN

To enable the new parameter value, run AUTOGEN by enter the following command:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
```

AUTOGEN alters the parameters, then automatically shuts down and reboots the system.

4.3 Modifying SYSGEN Parameters

The workstation software installation modifies the following System Generation Utility (SYSGEN) parameters:

CHANNELCNT—Channel count
PQL_MDIOLM—Direct I/O limit
PQL_MBIOLM—Buffered I/O limit
PQL_MASTLM—AST limit

Each of the following sections describes one of these parameters, explains how the installation modifies it, and explains how and why you might choose to modify it further.

The recommended procedure for modifying a SYSGEN parameter is as follows:

1 Modify the parameter value in the MODPARAMS.DAT file.

2 Run AUTOGEN to enable the new value.

4.3.1 Modifying UIS$P1_POOL_SIZE and UIS$SYSTEM_POOL_SIZE

If you are using a large number of terminal emulator windows or running several ReGIS applications, you might have to increase UIS$P1_POOL_SIZE.

You might become aware of this problem when the system crashes or when a window is deleted when you are creating a new window, changing the size of a window, or starting a new ReGIS application.

Increase P1 pool in increments of 512 bytes. For each 512-byte increase in P1 pool, increase the SYSGEN parameters CTLPAGES and PQL_DPGFLQUOTA by 1. To increase P1 pool, edit SYS$MANAGER:SYLOGICALS.COM and include the following line:

```
$ DEFINE/SYSTEM/EXEC UIS$P1_POOL_SIZE xxxx
```

where:

xxxx = the desired new value

Changes to the SYSGEN parameters should be done in MODPARAMS.DAT and while you are running AUTOGEN.

In extreme cases, you might have to increase UIS$SYSTEM_POOL_SIZE. To increase the UIS system pool, edit SYS$MANAGER:SYLOGICALS.COM, and include the following line:

```
$ DEFINE/SYSTEM/EXEC UIS$SYSTEM_POOL_SIZE xxxx
```

where:

xxxx = the desired new value

4.3.2 P1 Pool Expansion

In certain instances, VWS crashed if it ran out of memory. This is now corrected so that only the affected process is deleted. If VWS crashes, perform a SHOW MEMORY to determine how much paged pool is currently being used.

If less than 70 percent of page pool is in use, you are running out of UIS$QVSS_POOL_SIZE. You must increase UIS$QVSS_POOL_SIZE by increments of 512 bytes. To increase it, edit SYS$MANAGER:SYLOGICALS.COM in SYS$MANAGER by adding the following line:

```
DEFINE/SYSTEM/EXEC UIS$QVSS_POOL_SIZE xxx
```

where:

xxx = default for VWS + amount by which you increase it

NOTE: Increase the SYSGEN parameter PAGEDYN by the same amount you increase UIS$QVSS_POOL_SIZE.

If more than 70% of paged pool is in use, change only the SYSGEN parameter PAGEDYN.

If you are using ReGIS windows and the window is deleted, you are probably out of P1 space. You must increase UIS$P1_POOL_SIZE by increments of 512 bytes. For each 512-byte increase to P1 pool, you must increase the SYSGEN parameter CTLPAGES and the SYSGEN parameter PQL_DPGFLQUOTA by 1. To increase UIS$P1_POOL_SIZE, edit SYSMANAGER:SYLOGICALS.COM in SYS$MANAGER by adding the following line:

```
DEFINE/EXEC/SYS UIS$P1_POOL_SIZE xxx
```

where:

xxx = default for QDSS or QVSS (depending on your system) + the amount by which you increase P1

If none of the above conditions fit your situation, you are out of UIS$SYSTEM_POOL_SIZE. You must increase it by increments of 512 bytes. To increase UIS$SYSTEM_POOL_SIZE, edit SYS$MANAGER:SYLOGICALS.COM in SYS$MANAGER by adding the following line:

```
DEFINE/EXEC/SYS UIS$SYSTEM_POOL_SIZE xxx
```

where:

xxx = default for VWS + the amount by which you increase it

NOTE: Update all SYSGEN parameters in SYS$SYSTEM:MODPARAMS.DAT before you reboot.

4.3.3 Modifying the CHANNELCNT Parameter

The CHANNELCNT parameter determines the maximum number of open channels permitted on your system. A channel is assigned to the VMS workstation driver when a pointer region, button region, or cursor region is created. In addition, a channel is assigned for every window created on a color or intensity system.

When AUTOGEN is run during the installation of the VMS Workstation Software, it adds 175 to the CHANNELCNT parameter.

If your application programs create large numbers of regions or large numbers of windows, appropriately raise the CHANNELCNT parameter and run AUTOGEN.

4.3.4 Modifying the PQL_MASTLM Parameter

The PQL_MASTLM parameter determines the minimum value for the process quota ASTLM. (ASTLM determines the maximum number of ASTs that can be outstanding on a process.) Typically, an AST is associated with each pointer region, button region, or cursor region. If the AST limit (ASTLM) process quota is incorrectly set, the process could BUGCHECK or the system could hang or fail.

When AUTOGEN is run during the installation of VMS Workstation Software, the SYSGEN parameter PQL_MASTLM is set to 600.

You might also want to modify the process quota that corresponds to the parameter ASTLM for every process on the system. (This is done for clarity; the actual value used is the greater of the two.) The easiest way to do this is to invoke the Authorize Utility and modify all records, using a wildcard character as follows:

```
UAF> MODIFY * /ASTLM=600
```

If you have processes that use more than the minimum, ensure that they are properly incremented.

If your application programs create large numbers of regions or windows, raise the PQL_MASTLM parameter appropriately and run AUTOGEN.

4.3.5 Modifying the PQL_MBIOLM and PQL_MDIOLM Parameters

NOTE: This section applies only to intensity and color systems.

The PQL_MBIOLM parameter determines the minimum value for the process quota BIOLM, and the PQL_MDIOLM parameter determines the minimum value for the process quota DIOLM. (BIOLM determines the maximum number of buffered I/O that can be outstanding for a process. DIOLM determines the maximum number of direct I/O that can be outstanding for a process.) If these parameters are incorrectly set, the process could BUGCHECK or the system could hang or fail.

By default, the VMS Workstation Software sets BIOLM to 40 and DIOLM to 100.

You might also want to modify the process quota limits that correspond to the parameters BIOLM and DIOLM for every process on the system. (This is done for clarity; the actual value used is the greater of the two.) Invoke the Authorize Utility and modify all records, using a wildcard character as follows:

```
UAF> MODIFY * /BIOLM=40
UAF> MODIFY * /DIOLM=100
```

If you have processes that use more than the minimum, ensure that they are properly incremented.

The recommended value of 40 allows a process to create approximately 12 windows. Use the following algorithm to determine how much BIOLM is needed for the process:

```
16 + (2 * maximum number of windows created by the process)
```

4.4 Adding User-Defined Fonts to the Workstation

This section explains how to install a font and how to tune the system according to the type of font installation you choose.

The default workstation parameters allow for up to eight additional (user-defined) font files (files in which fonts are stored). You can add more than eight fonts to the workstation, but you might need to adjust certain system parameters in order to provide sufficient system resources.

The VMS Workstation Software allows you to add your own font files in any of the following ways:

- As a process-based font—You can place the font in the directory.

  If more than eight user-defined fonts are in use on the system, you need to increase the section count for the process (SYSGEN parameter PROCSECTCNT) and the open-file limit (process quota FILLM).

- As a shareable process-based font—You can use the VMS Install Utility (INSTALL) to enable the font as a shareable image. This improves performance when the font is called from a program and does not count against PROCSECTCNT or FILLM. However, you also need to increase the SYSGEN parameters GBLPAGES and GBLSECTIONS.

- As a system font—You can use the workstation Font Utility (FONT) to load the font into the *system font list* (list of fonts that use system paged pool). You might want to do this if you use the font on a regular basis, as it improves performance. The system font does not count against PROCSECTCNT or FILLM. However, you also need to increase the value of PAGEDYN to allow for sufficient memory in paged pool.

  Once you have added a font to the system list, the only way to remove it is to reboot the system.

  If a font is to be used from kernel mode, it *must* be loaded into the system list.

To determine which method of installing user-defined fonts is best for you, consider the advantages and disadvantages of each. Tables 4–5, 4–6, and 4–7 summarize each method in terms of ease of use and system resource requirements.

Table 4–5 Process-based Fonts

Advantages	Disadvantages
Easy to use as it does not require extensive setup	Counts as an open file
Eight font files supported without modification to system parameters	

Table 4–6 Shareable Process-based Fonts

Advantages	Disadvantages
Faster loading time when called from an application	Requires more setup procedures
Does not count as an open file	Uses global sections and global pages

Table 4–7 System Fonts

Advantages	Disadvantages
Fastest loading time when called from an application	Most complicated setup
Font is loaded once and remains loaded	Uses paged pool
Does not count as an open file	
Font is shared (because it is in the system)	

Regardless of how you decide to use the font file, you must first compile it with the Font Utility. You must have the MACRO assembler installed on your system, as the Font Utility uses MACRO to perform the compile operation. In addition, the Font Utility requires CMKRNL privilege.

The following sections describe the procedures for compiling the font file and for tuning the system parameters to allow for additional fonts.

4.4.1 Compiling a Font File

To compile a font file, follow these steps:

1. Copy the font file into the directory SYS$SYSTEM:UISFONTS.
2. Invoke the Font Utility and enter the COMPILE command, as in the following example:

```
$ RUN SYS$SYSTEM:UISFONTS
Font Utility> COMPILE
$
```

The Font Utility assumes a default file type of FNT. If your file is named X.FNT, you only need to specify X.

The Font Utility automatically exits after compiling the specified file. The resulting (compiled) file is an executable image with one of the following file types, depending on workstation type:

- VWS$FONT—for monochrome systems

  If the source file is named X.FNT, the image is named X.VWS$FONT.
- VWS$VAFONT—for color and intensity systems

  If the source file is named X.FNT, the image is named X.VWS$VAFONT.

4.4.2 Using a Font from Within Your Process

Using a process-based font requires no installation steps other than copying the compiled font file into SYS$FONT directory. After you copy it, you can call the font from an application. However, if the number of user-defined fonts on the system is greater than eight, you might need to increase the values of the SYSGEN parameter PROCSECTCNT and the process quota FILLM.

For example, if you are adding two user-defined fonts beyond the eight allowed by the workstation software, follow these steps:

1. Edit the file SYS$SYSTEM:MODPARAMS.DAT to modify PROCSECTCNT. For example:

```
$ EDIT SYS$SYSTEM:MODPARAMS.DAT
```

2. Move the cursor to the end of the file.
3. Add or modify the following line to increase the value of PROCSECTCNT by four for each font you are adding to the system:

```
ADD_PROCSECTCNT= 8
```

4. Exit from the editor.
5. Enter the following DCL command to determine the open file quota for your account:

```
$ SHOW PROCESS/QUOTA

28-JUN-1988 11:04:12.85   WTA1:              User: WORKERBEE

Process Quotas:
 Account name:
 CPU limit:                          Infinite  Direct I/O limit:          18
 Buffered I/O byte count quota:         20480  Buffered I/O limit:        18
 Timer queue entry quota:                  20  Open file quota:           20
 Paging file quota:                      8843  Subprocess quota:          10
 Default page fault cluster:               16  AST limit:                 22
 Enqueue quota:                            30  Shared file limit:          0
 Max detached processes:                    0  Max active jobs:            0
```

6 Increase the open file quota by one for each additional font, using the VMS Authorize Utility.

For example, if your open file quota is 20 and you have two additional fonts, you would enter the following commands:

```
$ SET DEFAULT SYS$SYSTEM:
$ RUN AUTHORIZE
UAF> MODIFY WORKERBEE/FILLM=22
%UAF-I-MDFYMSG, user record(s) updated
UAF> EXIT
%UAF-I-DONEMSG, system authorization file modified
%UAF-I-NAFNOMODS, no modifications made to network authorization file
%UAF-I-RDBNOMODS, no modifications made to rights database
$
```

7 Perform an orderly shutdown to reboot the system, as described in the installation guide for your base system.

4.4.3 Using a Shareable Process-Based Font

After you copy the font file into SYS$FONT and compile it, you have the option of installing the font as an image to be shared by programs. You invoke the font as you would invoke a font that is not shared, but the file is read into memory more quickly.

The following sections describe how to install the shareable font and how to tune the system accordingly.

4.4.3.1 Installing a Shareable Process-Based Font

To install a font as a shareable image, follow these steps:

1 Invoke the VMS Install Utility (INSTALL), using the following command:

```
$ INSTALL
INSTALL>
```

2 At the INSTALL> prompt, enter the file name, as in the following examples:

- For monochrome systems:

```
INSTALL> CREATE SYS$FONT:X.VWS$FONT/OPEN/HEADER_RESIDENT/SHARE
```

- For intensity and color systems:

```
INSTALL> CREATE SYS$FONT:X.VWS$VAFONT/OPEN/HEADER_RESIDENT/SHARE
```

3. Press CTRL/Z to exit from the Install Utility.

4.4.3.2 Tuning the System for Shareable Fonts

If the number of user-defined fonts on the system is greater than eight, you need to increase the values of the SYSGEN parameters GBLPAGES and GBLSECTIONS.

To modify GBLPAGES and GBLSECTIONS, follow these steps:

1. To determine the block size of the font files, enter the following command:

   ```
   $ DIRECTORY/SIZE SYS$FONT:X,Y
   X.VWS$FONT;1                        11
   Y.VWS$FONT;1                        15
   ```

   In this example, the total number of blocks is 26.

2. Edit the file SYS$SYSTEM:MODPARAMS.DAT to modify GBLPAGES and GBLSECTIONS.

   ```
   $ EDIT SYS$SYSTEM:MODPARAMS.DAT
   ```

3. Move the cursor to the end of the file.

4. Add or modify the appropriate lines to increase GBLPAGES by the total number of additional font blocks and GBLSECTIONS by four for each additional font. For example:

   ```
   ADD_GBLPAGES= 26
   ADD_GBLSECTIONS= 8
   ```

5. Exit from the editor.

6. Enable the new parameter values by running AUTOGEN, as follows:

   ```
   $ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
   ```

   AUTOGEN alters the parameters, then automatically shuts down and reboots the system.

4.4.4 Using a System-List Font

After you compile the font, you can include it in the system list by using the workstation Font Utility.

Each font you add to the system list requires 512 bytes of paged pool for every block. (For example, if the size of the font file is 10 blocks, the font requires 5120 bytes of paged pool.) If you need to access a user-defined font from only one process at a time, the amount of available paged pool should be sufficient.

The following sections describe how to place the font into the system list and how to increase the amount of system paged pool.

4.4.4.1 Loading a System Font

To load a font into the system list, follow these steps:

1. Invoke the Font Utility, as follows:

```
$ RUN SYS$SYSTEM:UISFONTS
Font Utility>
```

2. Enter the load command, as follows:

```
Font Utility> LOAD X
Font Utility>
```

   You do not need to specify a directory or file type. The Font Utility assumes the default directory SYS$FONT and looks for the default type VWS$FONT (for monochrome systems) or VWS$VAFONT (for color and intensity systems).

   The Font Utility> prompt appears when the load operation is completed.

3. Press CTRL/Z to exit from the Font Utility.

4.4.4.2 Tuning the System for System-List Fonts

To add the appropriate amount of paged pool to your system, you need to modify the value of the SYSGEN parameter PAGEDYN. Use the following procedure:

1. To determine the size of the font files, enter the following command:

```
$ DIRECTORY/SIZE SYS$FONT:X,Y
X.VWS$FONT;1                11
Y.VWS$FONT;1                15
```

2. To determine the byte value by which you need to increase paged pool, multiply the size (number of blocks) of each additional font file by 512 and add the results.

   For example, if X.VWS$FONT is 11 blocks and Y.VWS$FONT is 15 blocks, add 5632 and 7680. You need a total of 13,312 bytes of additional paged pool.

3. Edit the file SYS$SYSTEM:MODPARAMS.DAT to modify PAGEDYN.

```
$ EDIT SYS$SYSTEM:MODPARAMS.DAT
```

4. Move the cursor to the end of the file.
5. Add or modify the following line to specify the value you need to add to paged pool. For example:

```
ADD_PAGEDYN= 13312
```

6. Exit from the editor.
7. Enable the new parameter values by running AUTOGEN, as follows:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
```

   AUTOGEN alters the parameters, then automatically shuts down and reboots the system.

A VMS Workstation Software Files and Fonts

A.1 Files Installed with the Workstation Software

```
SYS$COMMON:[SYSHLP]VWS042.RELEASE_NOTES
SYS$COMMON:[SYSHLP]UISHELP.HLB
SYS$COMMON:[SYSHLP.EXAMPLES]BOOK_*.FOR
SYS$COMMON:[SYSHLP.EXAMPLES]DEFFONT.COM
SYS$COMMON:[SYSHLP.EXAMPLES]DVORAK$DC01.MAR
SYS$COMMON:[SYSHLP.EXAMPLES]DVORAK$DS01.MAR
SYS$COMMON:[SYSHLP.EXAMPLES]DVORAK$TC01.MAR
SYS$COMMON:[SYSHLP.EXAMPLES]DVORAK$TS01.MAR
SYS$COMMON:[SYSHLP.EXAMPLES]DVORAK.COM
SYS$COMMON:[SYSHLP.EXAMPLES]KEYBOARD_MACROS.MAR
SYS$COMMON:[SYSHLP.EXAMPLES.VWS]VWS$IVP.COM

SYS$COMMON:[SYSMSG]UISBGMSG.EXE
SYS$COMMON:[SYSMSG]UISMSGLOA.EXE
SYS$COMMON:[SYSMSG]UISVTMSG.EXE
SYS$COMMON:[SYSMSG]UISMSGSLV.EXE

SYS$COMMON:[SYSEXE]PME_LOADER.EXE
SYS$COMMON:[SYSEXE]TKDRIVER.EXE
SYS$COMMON:[SYSEXE]UIS$MSGBOX_PME.EXE
SYS$COMMON:[SYSEXE]UIS$REGIS_PME.EXE
SYS$COMMON:[SYSEXE]UIS$TEK_PME.EXE
SYS$COMMON:[SYSEXE]UIS$VT200_PME.EXE
SYS$COMMON:[SYSEXE]UISBG.EXE
SYS$COMMON:[SYSEXE]UISFONTS.EXE
SYS$COMMON:[SYSEXE]UISHELP.EXE
SYS$COMMON:[SYSEXE]UISLOA.EXE
SYS$COMMON:[SYSEXE]UISMEMFONTS.COM
SYS$COMMON:[SYSEXE]UISSHRXFR.EXE
SYS$COMMON:[SYSEXE]UISVTSETUP.EXE
SYS$COMMON:[SYSEXE]VWS$EMULATORS.EXE
SYS$COMMON:[SYSEXE]VWS$TEK4125.EXE
SYS$COMMON:[SYSEXE]VWS$VT200_PRINT.EXE
SYS$COMMON:[SYSEXE]VWS$VT200_PRINT_MESSAGE.EXE
SYS$COMMON:[SYSEXE]TKDRIVER.STB
SYS$COMMON:[SYSEXE]UIS$VT200_PME.STB
SYS$COMMON:[SYSEXE]UIS$REGIS_PME.STB
SYS$COMMON:[SYSEXE]UIS$MSGBOX_PME.STB
SYS$COMMON:[SYSEXE]UIS$TEK_PME.STB
SYS$COMMON:[SYSEXE]UISBG.STB
SYS$COMMON:[SYSEXE]UISHELP.STB
SYS$COMMON:[SYSEXE]UISLOASYM.STB
SYS$COMMON:[SYSEXE]UISLOAVEC.STB
SYS$COMMON:[SYSEXE]UISSTRUCT.STB
SYS$COMMON:[SYSEXE]UISVTSETUP.STB
SYS$COMMON:[SYSEXE]V_DRIVERDEF.STB
SYS$COMMON:[SYSEXE]VADRIVER.STB
SYS$COMMON:[SYSEXE]VCDRIVER.STB
SYS$COMMON:[SYSEXE]VEDRIVER.STB
SYS$COMMON:[SYSEXE]VFDRIVER.STB
SYS$COMMON:[SYSEXE]VWS$TEK4125.STB
SYS$COMMON:[SYSEXE]WTDRIVER.STB
```

```
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_19X07.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_19X10.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_19X11.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_19X14.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_19X22.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_38X14.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_DVWSVT0_38X22.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_14X07_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_14X09_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_14X14_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_14X18_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_28X14_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_RCOURIR_28X18_B.TEMPLATE
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_TCS_80.COM
SYS$COMMON:[SYSFONT]UIS$LOAD_FONT_TCS_132.COM

SYS$COMMON:[SYSMGR]UIS$SETUP_VT240.COM
SYS$COMMON:[SYSMGR]STARTVWS.COM
SYS$COMMON:[SYSMGR]UISBG.DAT
SYS$COMMON:[SYSMGR]VWS$TRANSCRIPT.COM
SYS$COMMON:[SYSMGR]VWS$TEK4125.COM

SYS$COMMON:[SYSLIB]ADA$ADD_PREDEFINED_UNIT.COM
SYS$COMMON:[SYSLIB]ADAUISENTRY.ADA
SYS$COMMON:[SYSLIB]UISENTRY.*
SYS$COMMON:[SYSLIB]UISUSRDEF.*
SYS$COMMON:[SYSLIB]UISMSG.*
SYS$COMMON:[SYSLIB]UISKEYBOARD.TLB
SYS$COMMON:[SYSLIB]UISSHR.EXE

SYS$COMMON:[SYS$LDR]VADRIVER.EXE
SYS$COMMON:[SYS$LDR]VCDRIVER.EXE
SYS$COMMON:[SYS$LDR]VEDRIVER.EXE
SYS$COMMON:[SYS$LDR]VFDRIVER.EXE
SYS$COMMON:[SYS$LDR]VKDRIVER.EXE
SYS$COMMON:[SYS$LDR]WTDRIVER.EXE
SYS$COMMON:[SYS$LDR]PZDRIVER.EXE
SYS$COMMON:[SYS$LDR]TJDRIVER.EXE
```

The file SYS$COMMON:[SYSEXE]UISSETUP.DAT is recreated each time the system is installed. This causes the workstation setup options to be set to their original default values. Therefore, you may need to reset site-specific setup attributes.

The file UISBG.DAT is installed with the workstation software. If an earlier version exists, it is renamed with a lower version number. To restore a customized UISBG.DAT file, rename it with a higher version number.

A.2 Files Provided for HCUIS Installation

```
SYS$COMMON:[SYSLIB]HCUISDEF.*
SYS$COMMON:[SYSLIB]HCUISMSG.*
SYS$COMMON:[SYSHLP.EXAMPLES.HCUIS]HCUIS$IVP.COM
SYS$COMMON:[SYSHLP.EXAMPLES.HCUIS]IVP.UIS
SYS$COMMON:[SYSMGR]HCUISSETUP.COM
SYS$COMMON:[SYSMGR]HCUISDEVICES.COM
SYS$COMMON:[SYSLIB]TRN$UIS_HPGL.EXE
SYS$COMMON:[SYSLIB]TRN$UIS_PS.EXE
SYS$COMMON:[SYSLIB]TRN$UIS_REGIS.EXE
SYS$COMMON:[SYSLIB]TRN$UIS_SIXEL.EXE
SYS$COMMON:[SYSEXE]RENDER.EXE
SYS$COMMON:[SYSMSG]HCUISMSG.EXE
SYS$COMMON:[SYSLIB]HCUISSHR.EXE
```

A.3 Files Provided for SIGHT Installation

```
SYS$COMMON:[SYSHLP.EXAMPLES.SIGHT]SIGHT$IVP.COM
SYS$COMMON:[SYSEXE]SIGHT.EXE
SYS$COMMON:[SYSMGR]SIGHT$STARTUP.COM
SYS$COMMON:[SIGHT]SIGHT$COLOR16_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$COLOR2_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$FONT_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$PALETTE_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$PATTERN_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$PEN_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$TRANSPARENCY_MENU.UIS
SYS$COMMON:[SIGHT]SIGHT$RULE_MENU.UIS
```

A.4 Fonts Installed with the Workstation Software

The following sections list 77 dpi fonts necessary for startup, 77 dpi fonts unnecessary for startup, 100 dpi fonts necessary for startup, and 100 dpi fonts unnecessary for startup.

If you decide to select only the 100 dpi fonts, VMS Workstation Software does not guarantee backward compatibility for applications that assume a character size of 77 dpi.

A.4.1 Fonts Necessary for Startup for All Font Sizes

```
! This file is necessary for ALL font sizes
!
$! Some symbols
$!  SGLH - Single High
$!  SGLW - Single Wide
$!  DBLH - Double High
$!  DBLW - Double Wide
$!  TCS - Technical Character Set
$!  DCM - Display Control Mode
$!
$! This font is necessary for BOTH 77 & 100 DPI
$!
DEUISPATAAAAAAF000000000DA              !UIS fill patterns
$!
```

A.4.2 77 DPI Fonts Necessary for General Use

```
$!-----------------------------------------------------------------
$! These are necessary for 77 DPI startup - These come from the
$! VWS042.D or VWS042.E saveset.
$!-----------------------------------------------------------------
$!
DTABER0003WK00PG0001UZZZZ02A000         !Banner Title and menu Choice font
DTABER0003WK00GG0001UZZZZ02A000         !Menu instruction font

DTABER0G03CK00GG0001UZZZZ02A000         !VT100 SGLH (132 Col) Normal
DTERMING03CK00PG0001UZZZZ02A000         !                     Bold
DVWSVT0G03CK00GG0001QZZZZ02A000         !VT100 SGLH (132 Col) Normal TCS
DVWSVT0G03CK00PG0001QZZZZ02A000         !VT100                Bold TCS
```

```
DTABER0I03WK00GG0001UZZZZ02A000          !VT100 SGLH (80 Col) Normal
DTABER0I03WK00PG0001UZZZZ02A000          !VT100               Bold
DVWSVT0I03WK00GG0001QZZZZ02A000          !VT100 SGLH (80 Col) Normal TCS
DVWSVT0I03WK00PG0001QZZZZ02A000          !VT100               Bold TCS

DTABER0M06OK00GG0001UZZZZ02A000          !VT100 DBLH (132 Col) Normal
DTERMINM06OK00PG0001UZZZZ02A000          !VT100                Bold
DVWSVT0N06OK00GG0001QZZZZ02A000          !VT100 DBLH (132 Col) Normal TCS
DVWSVT0N06OK00PG0001QZZZZ02A000          !VT100                Bold TCS

DTABER0R07SK00GG0001UZZZZ02A000          !VT100 DBLH (80 Col) Normal
DTABER0R07SK00PG0001UZZZZ02A000          !VT100               Bold
DVWSVT0R07SK00GG0001QZZZZ02A000          !VT100 DBLH (80 Col) Normal TCS
DVWSVT0R07SK00PG0001QZZZZ02A000          !VT100               Bold TCS

DTABER0M03CK00GG0001UZZZZ02A000          !VT100 DBLW (132 Col) Normal
DTERMINM03CK00PG0001UZZZZ02A000          !VT100                Bold
DVWSVT0N03CK00GG0001QZZZZ02A000          !VT100 DBLW (132 Col) Normal TCS
DVWSVT0N03CK00PG0001QZZZZ02A000          !VT100                Bold TCS

DTABER0R03WK00GG0001UZZZZ02A000          !VT100 DBLW (80 Col) Normal
DTABER0R03WK00PG0001UZZZZ02A000          !VT100               Bold
DVWSVT0R03WK00GG0001QZZZZ02A000          !VT100 DBLW (80 Col) Normal TCS
DVWSVT0R03WK00PG0001QZZZZ02A000          !VT100               Bold TCS

DVWSVT1G03CK00GG0001UZZZZ02A000          !VT200 (132 Col) DCM
DVWSVT1I03WK00GG0001UZZZZ02A000          !VT200 (80 Col) DCM

DVWSVT0J05AK00GG0001UZZZZ02A000          !Special ReGIS font
DVWSVT0J05AK00PG0001UZZZZ02A000          !Special ReGIS font
DVWSVT1J05AK00GG0001UZZZZ02A000          !Special ReGIS font
DVWSVT1J05AK00PG0001UZZZZ02A000          !Special ReGIS font
```

A.4.3 77 DPI Fonts Not Necessary for Startup

```
$!
$!--------------------------------------------------------------------
$! These are not as necessary to have. They are in the same savesets.
$!--------------------------------------------------------------------
$!

DVWSVT0A00KK00GG0001UZZZZ02A000          !VT200 2x1 pixel font

DVWSVT0G05AK00GG0001UZZZZ02A000          !VT200 (132 Col) Normal (19x7)
DVWSVT0G05AK00PG0001UZZZZ02A000          !VT200 (132 Col) Bold  (19x7)
DVWSVT0G05AK00GG0001QZZZZ02A000          !VT200 (132 Col) Normal TCS (19x7)
DVWSVT0G05AK00PG0001QZZZZ02A000          !VT200 (132 Col) Bold TCS (19x7)
DVWSVT1G05AK00GG0001UZZZZ02A000          !VT200 (132 Col) Normal DCM (19x7)
DVWSVT1K05AK00GG0001UZZZZ02A000          !VT200 (132 Col) Normal DCM (19x7)

DVWSVT0K05AK00GG0001UZZZZ02A000          !VT200 (80 Col) Normal (19x11)
DVWSVT0K05AK00PG0001UZZZZ02A000          !VT200 (80 Col) Bold (19x11)
DVWSVT0K05AK00GG0001QZZZZ02A000          !VT200 (80 Col) Normal TCS (19x11)
DVWSVT0K05AK00PG0001QZZZZ02A000          !VT200 (80 Col) Bold TCS (19x11)

DVWSVT0N05AK00GG0001UZZZZ02A000          !VT200 DBLW (132 Col) Normal (19x14)
DVWSVT0N05AK00PG0001UZZZZ02A000          !VT200 DBLW (132 Col) Bold (19x14)
DVWSVT0N0AKK00GG0001UZZZZ02A000          !VT200 DBLH (132 Col) Normal (38x14)
DVWSVT0N0AKK00PG0001UZZZZ02A000          !VT200 DBLH (132 Col) Bold (38x14)

DVWSVT0V05AK00GG0001UZZZZ02A000          !VT200 DBLW (80 Col) Normal (19x22)
DVWSVT0V05AK00PG0001UZZZZ02A000          !VT200 DBLW (80 Col) Bold (19x22)
DVWSVT0V0AKK00GG0001UZZZZ02A000          !VT200 DBLH (80 Col) Normal (38x22)
DVWSVT0V0AKK00PG0001UZZZZ02A000          !VT200 DBLH (80 Col) Bold (38x22)
```

A.4.4 100 DPI Fonts Necessary for Startup

```
$!
$!------------------------------------------------------------------
$! These are necessary for 100 DPI startup.  These are in the
$! VWS042.F or VWS042.G savesets
$!------------------------------------------------------------------
$!
DWSMENU003WK00GG0001UZZZZ02B000         !Menu font
DWSMENU003WK00PG0001UZZZZ02B000         !Menu font
DWSMENU003WK01GG0001UZZZZ02B000         !Menu font

RCOURIRG03WK00GG0001UZZZZ02B000         !SGLH (132 Col) Normal
RCOURIRG03WK00PG0001UZZZZ02B000         !               Bold
RCOURIRG03WK00GG0001QZZZZ02B000         !SGLH (132 Col) Normal TCS
RCOURIRG03WK00PG0001QZZZZ02B000         !               Bold TCS

RCOURIRI03WK00GG0001UZZZZ02B000         !SGLH (80 Col) Normal
RCOURIRI03WK00PG0001UZZZZ02B000         !              Bold
RCOURIRI03WK00GG0001QZZZZ02B000         !SGLH (80 Col) Normal TCS
RCOURIRI03WK00PG0001QZZZZ02B000         !         Bold TCS

RCOURIRN03WK00GG0001UZZZZ02B000         !DBLW (132 Col) Normal
RCOURIRN03WK00PG0001UZZZZ02B000         !               Bold
RCOURIRN03WK00GG0001QZZZZ02B000         !DBLW (132 Col) Normal TCS
RCOURIRN03WK00PG0001QZZZZ02B000         !               Bold TCS

RCOURIRR03WK00GG0001UZZZZ02B000         !DBLW (80 Col) Normal
RCOURIRR03WK00PG0001UZZZZ02B000         !              Bold
RCOURIRR03WK00GG0001QZZZZ02B000         !DBLW (80 Col) Normal TCS
RCOURIRR03WK00PG0001QZZZZ02B000         !              Bold TCS

RCOURIRN07SK00GG0001UZZZZ02B000         !DBLH (132 Col) Normal
RCOURIRN07SK00PG0001UZZZZ02B000         !               Bold
RCOURIRN07SK00GG0001QZZZZ02B000         !DBLH (132 Col) Normal TCS
RCOURIRN07SK00PG0001QZZZZ02B000         !               Bold TCS

RCOURIRR07SK00GG0001UZZZZ02B000         !DBLH (80 Col) Normal
RCOURIRR07SK00PG0001UZZZZ02B000         !              Bold
RCOURIRR07SK00GG0001QZZZZ02B000         !DBLH (80 Col) Normal TCS
RCOURIRR07SK00PG0001QZZZZ02B000         !              Bold TCS
```

A.5 SIGHT Black and White Fonts

```
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSIFPL02SK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS001OK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS001OK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS001OK01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0028K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0028K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0028K01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS002SK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS002SK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS002SK01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003CK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003CK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003CK01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003WK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003WK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS003WK01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0050K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0050K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS0050K01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS006OK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS006OK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS006OK01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K01GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS001OK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS001OK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS001OK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0028K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0028K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0028K02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS002SK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS002SK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS002SK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003CK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003CK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003CK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003WK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003WK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS003WK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0050K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0050K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS0050K02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS006OK00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS006OK00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS006OK02GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K00GG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K00PG0001UZZZZ02A000.VWS$FONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K02GG0001UZZZZ02A000.VWS$FONT
```

A.5.1 SIGHT Color Fonts

```
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSIFPJ03CK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSIFPL02SK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS001OK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS001OK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS001OK01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0028K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0028K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0028K01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS002SK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS002SK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS002SK01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003CK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003CK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003CK01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003WK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003WK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS003WK01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0050K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0050K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS0050K01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS006OK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS006OK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS006OK01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSINS00A0K01GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS001OK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS001OK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS001OK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0028K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0028K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0028K02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS002SK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS002SK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS002SK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003CK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003CK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003CK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003WK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003WK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS003WK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0050K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0050K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS0050K02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS006OK00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS006OK00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS006OK02GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K00GG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K00PG0001UZZZZ02A000.VWS$VAFONT
SYS$COMMON:[SYSFONT]DWYSISS00A0K02GG0001UZZZZ02A000.VWS$VAFONT
```

B Standalone VAXstation II/GPX Sample Installation

```
Username: SYSTEM
Password:

$ set def sys$update
$ @vmsinstal vws042 mua0:

 VAX/VMS Software Product Installation Procedure V5.0-2

It is 17-SEP-1989 at 10:23.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]? y

The following products will be processed:

  VWS V4.2

 Beginning installation of VWS V4.2 at 10:26

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been successfully
   moved to SYS$HELP.

   Installing VMS Workstation Software - V4.2

        Product:      VWS
        Producer:     DEC
        Version:      V4.2
        Release Date: 14-AUG-1989

* Does this product have an authorization key registered and loaded? y

 The  VWS  kit installation has been divided into three parts, VWS,
 HCUIS,  and  SIGHT.   The VWS portion of the installation includes
 the  VWS  images, fonts, language description files, and some demo
 programs.  The  HCUIS and SIGHT portions include all images needed
 to use those options of the Workstation Software.

 The  first  question asks if you would like to install any portion
 of  the  base  VWS kit.  Answer "NO" to the question if you prefer
 not to install any portion of the base VWS kit, but rather want to
 install  either  HCUIS or SIGHT.  If you answer no you will not be
 given any of the prompts for the VWS options; instead, the instal-
 lation will skip to the HCUIS option.

* Would you like to install any portion of the base VWS kit  [Y]?
*  Would you like to install the VWS images  [Y]?

 An  AUTOGEN  will be run at the end of this installation.  You are
 being given the choice to run AUTOGEN with or without FEEDBACK. If
 you  would  like  to run AUTOGEN with FEEDBACK answer "YES" to the
 following question; otherwise, press RETURN.  Please refer to 'The
 Guide  to  Setting  up VMS' for more information on FEEDBACK.  The
 default is to run without FEEDBACK.

*      Would you like AUTOGEN to use FEEDBACK  [N]?

*  Install the VWS Programming Description files  [Y]?
```

Standalone VAXstation II/GPX Sample Installation

```
  This installation builds description files you
  need when you use the UIS programming interface.
*       Would you like all the description files built  [Y]?

    You have chosen the following languages:
    (ADA,BLISS,CC,FORTRAN,MACRO,PASCAL,PLI)

*   Is this OK [Y]?

*  Install examples from VWS Graphics Programming Guide  [Y]?
*  Would you like to install the VWS fonts  [Y]?
*      Would you like to install the 77 DPI fonts  [Y]?
*      Would you like to install the 100 DPI fonts  [Y]?


* Would you like to install the HCUIS portion of the kit  [Y]?


* Would you like to install the SIGHT portion of the kit  [Y]?
*  Would you like to install the SIGHT fonts  [Y]?

 No further questions will be asked during the installation.

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-RESTORE, Restoring product saveset D ...

     Installing some keyboard macro examples on your system.


     Putting the GRAPHICS PROGRAMMING GUIDE book examples onto your
     system, they will be the in SYS$EXAMPLES directory. These files
     are all named BOOK_*.FOR.

%VMSINSTAL-I-RESTORE, Restoring product saveset E ...

     The file HCUISDEVICES.COM has been copied to your SYS$MANAGER  direc-
     tory with the  name HCUISDEVICES_NEW.COM.  Please  edit this file as
     described in  the Guide   to  Printing  Graphics  and  rename it  to
     HCUISDEVICES.COM.  You may wish to consult  the existing  version of
     HCUISDEVICES.COM when editing HCUISDEVICES_NEW.COM.

%VMSINSTAL-I-RESTORE, Restoring product saveset F ...

     NOTE: SIGHT includes a startup command procedure, located in
     SYS$COMMON:[SYSMGR] called SIGHT$STARTUP.COM.  This procedure
     should be invoked from SYS$COMMON:[SYSMGR]SYSTARTUP_V5.COM
     during system startup.


 Installing the fonts for your system.

%VMSINSTAL-I-RESTORE, Restoring product saveset H ...
%VMSINSTAL-I-RESTORE, Restoring product saveset J ...
%VMSINSTAL-I-RESTORE, Restoring product saveset L ...
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

         HCUIS Installation Verification Procedure

%HCUIS-S-IVPPASS, the HCUIS installation has passed the IVP

         SIGHT Installation Verification Procedure

%SIGHT-S-IVPPASS, the SIGHT installation has passed the IVP

         VWS Installation Verification Procedure

%VWS-S-IVPPASS, the VWS installation has passed the IVP

     Installation of VMS Workstation Software V4.2 is now complete.


    The VMS AUTOGEN procedure will now be automatically run so that your
    SYSGEN parameters will be set and your system will be properly configured.
    After that, your system will be automatically shut down.

    When the shut down is complete, press the HALT button and then reboot the
    system.
    After your system has been rebooted and initialized, the brief appearance
    of a "Getting Started" window on the screen will indicate successful
    installation of the workstation software.

    If necessary, you can recall the window by pressing any key on the keyboard
    when there are no windows on the workstation screen.

    If you are reinstalling the VWS software, the UISBG.DAT (menu customization)
    and UISSETUP.DAT (workstation setup) files you used previously have been
    renamed to UISBG.DAT;-1 and UISOLDSETUP.DAT respectively.  The ReGIS setup
    file UIS$SETUP_VT240.COM has also been renamed to UIS$SETUP_VT240.COM;-1

%AUTOGEN-I-BEGIN, GETDATA phase is beginning.
%AUTOGEN-I-NEWFILE, A new version of SYS$SYSTEM:PARAMS.DAT has been created.
        You may wish to purge this file.
%AUTOGEN-I-END, GETDATA phase has successfully completed.
%AUTOGEN-I-BEGIN, GENPARAMS phase is beginning.
%AUTOGEN-I-OVERRIDE, user specified value for SWAPFILE
 overrides preceding requirements for this parameter in PARAMS.DAT

******************
%AUTOGEN-W-MULTMIN, Multiple MIN values found in PARAMS.DAT
 for MIN_GBLSECTIONS. Using highest value.
******************

******************
%AUTOGEN-W-MULTMIN, Multiple MIN values found in PARAMS.DAT
 for MIN_CHANNELCNT. Using highest value.
******************

******************
%AUTOGEN-W-MULTMIN, Multiple MIN values found in PARAMS.DAT
 for MIN_PQL_MDIOLM. Using highest value.
******************

%AUTOGEN-I-OVERRIDE, user specified value for PROCSECTCNT
 overrides preceding requirements for this parameter in PARAMS.DAT
%AUTOGEN-I-OVERRIDE, user specified value for MAXBUF
 overrides preceding requirements for this parameter in PARAMS.DAT
%AUTOGEN-I-NOFEEDBACK, Feedback information will not be used in the subsequent
 calculations.
%AUTOGEN-I-NEWFILE, A new version of SYS$MANAGER:VMSIMAGES.DAT has been created.
        You may wish to purge this file.
%AUTOGEN-I-NEWFILE, A new version of SYS$SYSTEM:SETPARAMS.DAT has been created.
        You may wish to purge this file.
%AUTOGEN-I-END, GENPARAMS phase has successfully completed.
%AUTOGEN-I-BEGIN, GENFILES phase is beginning.
%AUTOGEN-I-NOCHANGE, No page file modifications will be made.
%AUTOGEN-I-NOCHANGE, No swap file modifications  will be made.

%AUTOGEN-I-NOCHANGE, No dump file modifications will be made.

%AUTOGEN-I-END, GENFILES phase has successfully completed.
%AUTOGEN-I-BEGIN, SETPARAMS phase is beginning.
%AUTOGEN-I-END, SETPARAMS phase has successfully completed.
 Installation of VWS V4.2 completed at 11:36
%VMSINSTAL-I-REBOOT, This product requires that the system be rebooted.
                  .
                  .
                  .
```

C Sample VWSDEMO Installation

This appendix provides a sample installation for VWSDEMO. The programs in VWSDEMO are intended *only as demonstrations* to help you to program in UIS.

Table C–1 shows the number of blocks you need to install the VWSDEMO kit:

Table C–1 Blocks Needed to Install the VWSDEMO Kit

Installation Choice	Block Number
Only sources	3550
Only images	1275
Both sources and images	4700*

*If you install only the sources or only the images, the release notes are installed with each one. If you install both sources and images, only one set of release notes is installed. Therefore, adding the blocks used for installing only the sources with the blocks used for installing only the images does *not* equal the total number of blocks used for installing both.

The number of RX33s for the VWSDEMO kit is 4.

To install VWSDEMO, type the following command:

```
$ @SYS$UPDATE:VMSINSTAL VWSDEMO042 ddcu:
```

where:

ddcu: = Device controller unit; for example DUA1:

VWSDEMO only installs on Version 5.0 of VMS.

You can find information on most of the demonstrations in the file: SYS$HELP:VWSDEMO042.RELEASE_NOTES

The rest of this chapter contains the sample installation and a list of files for the source kit and for the images kit.

C.1 Sample Installation

```
Username: SYSTEM
Password:


$ set def sys$update
$ @vmsinstal vwsdemo042 mua0:


 VAX/VMS Software Product Installation Procedure V5.0-2


It is 20-FEB-1989 at 09:24.
Enter a question mark (?) at any time for help.
```

```
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
 SERVER_0004
* Do you want to continue anyway [NO]? yes
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:

  VWSDEMO V4.2

 Beginning installation of VWSDEMO V4.2 at 09:26

%VMSINSTAL-I-RESTORE, Restoring product saveset A ...
%VMSINSTAL-I-RELMOVED , The product's release notes have been
successfully moved to SYS$HELP.

                   Installation of VWS Demos for V4.2

 This procedure will install some demos for programming in VWS.  The
 sources contained within are for demonstration purposes only.  They
 have been created to aid you in programming in VWS.

 The installation will create a directory off of SYS$SYSDEVICE called
 VWSDEMO.  Underneath this directory there will be subdirectories
 which will contain the demos from various languages supported by VWS.

* Do you want to purge files replaced by this installation [YES]?

 This installation will allow you to choose to install either the
 sources or just the images or both whichever you prefer.
```

The installation procedure next asks if you want to install both sources and images. If you answer NO, the installation procedure asks two additional questions that let you select which you want to install. If you answer YES, the installation procedure does not ask those two questions, but procedes with the installation.

```
* Would you like to install both sources and images [Y]? n
*  Install only the sources [N]? y
*  Install only the images [N]? y

 No more questions will be asked

%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
%VMSINSTAL-I-RESTORE, Restoring product saveset C ...
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.COM].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.B32].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.CC].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.EPAS].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.FOR].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.PAS].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
  SYS$SYSDEVICE:[VWSDEMO.PLI].

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories

 Installation of VWSDEMO V4.2 completed at 10:07

 VMSINSTAL procedure done at 10:09
```

C.2 VWSDEMO Source Kit and Images Kit Files

The following files are on the VWSDEMO source kit:

```
SYS$SYSDEVICE:[VWSDEMO.FOR]ALL_COLORS.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]ALPHA.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]ARCH_DATA.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]AST.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]ASTRO_DATA.MAR
SYS$SYSDEVICE:[VWSDEMO.B32]BOUNCE.B32
SYS$SYSDEVICE:[VWSDEMO.MAR]BOUNCE_ICON.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]BOUNCE_SUBS.FOR
SYS$SYSDEVICE:[VWSDEMO.PLI]BOXES.PLI
SYS$SYSDEVICE:[VWSDEMO.MAR]BRUSH.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]BUTTONAST.FOR
SYS$SYSDEVICE:[VWSDEMO.EPAS]CALC.EPAS
SYS$SYSDEVICE:[VWSDEMO.MAR]CALCI.MAR
SYS$SYSDEVICE:[VWSDEMO.EPAS]CALENDAR.EPAS
SYS$SYSDEVICE:[VWSDEMO.MAR]CALENDARI.MAR
SYS$SYSDEVICE:[VWSDEMO.EPAS]CDOODLE.EPAS
SYS$SYSDEVICE:[VWSDEMO.CC]CHROMA_TRIANGLE.C
SYS$SYSDEVICE:[VWSDEMO.MAR]CIRCLE.MAR
SYS$SYSDEVICE:[VWSDEMO.PLI]CLOCK.PLI
SYS$SYSDEVICE:[VWSDEMO.MAR]CLOCKI.MAR
SYS$SYSDEVICE:[VWSDEMO.CC]CPETAL.C
SYS$SYSDEVICE:[VWSDEMO.EPAS]CPUZZLE.EPAS
SYS$SYSDEVICE:[VWSDEMO.CC]CREATE_MENU.C
SYS$SYSDEVICE:[VWSDEMO.FOR]CUBE.FOR
SYS$SYSDEVICE:[VWSDEMO.B32]DATETIME.B32
SYS$SYSDEVICE:[VWSDEMO.PAS]DECLANDER.PAS
SYS$SYSDEVICE:[VWSDEMO.CC]DELAUNAY.C
SYS$SYSDEVICE:[VWSDEMO.B32]DEMOMENU.B32
SYS$SYSDEVICE:[VWSDEMO.PLI]DESIGNS.PLI
SYS$SYSDEVICE:[VWSDEMO.EPAS]DESK.EPAS
SYS$SYSDEVICE:[VWSDEMO.PLI]DIGICLOCK.PLI
SYS$SYSDEVICE:[VWSDEMO.EPAS]DIGITALCLOCK.EPAS
SYS$SYSDEVICE:[VWSDEMO.PLI]DISPFONT.PLI
SYS$SYSDEVICE:[VWSDEMO.CC]DISPLAY_LIST.C
SYS$SYSDEVICE:[VWSDEMO.FOR]DISTORT.FOR
SYS$SYSDEVICE:[VWSDEMO.PAS]DLCREATE.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLDRAW.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLFUNC.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLGLOBALS.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLINIT.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLMOVE.INC
SYS$SYSDEVICE:[VWSDEMO.PAS]DLUPDATE.INC
SYS$SYSDEVICE:[VWSDEMO.FOR]DOILOOP.FOR
SYS$SYSDEVICE:[VWSDEMO.FOR]DOILYDC.FOR
SYS$SYSDEVICE:[VWSDEMO.EPAS]DOODLE.EPAS
SYS$SYSDEVICE:[VWSDEMO.CC]DOPEXAMPLE.C
SYS$SYSDEVICE:[VWSDEMO.CC]DOP_FILLED_CIRCLES_C.C
SYS$SYSDEVICE:[VWSDEMO.FOR]DOP_FILLED_CIRCLES_FOR.FOR
SYS$SYSDEVICE:[VWSDEMO.PAS]DOP_FILLED_CIRCLES_PAS.PAS
SYS$SYSDEVICE:[VWSDEMO.MAR]DUST_DATA.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]ELLIPSE.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]ERASER.MAR
SYS$SYSDEVICE:[VWSDEMO.EPAS]EUIS.EPAS
SYS$SYSDEVICE:[VWSDEMO.MAR]FCIRCLE.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]FELLIPSE.MAR
SYS$SYSDEVICE:[VWSDEMO.PLI]FILLPAT.PLI
SYS$SYSDEVICE:[VWSDEMO.CC]FLAGS.C
SYS$SYSDEVICE:[VWSDEMO.CC]FLAG_COLORS.C
SYS$SYSDEVICE:[VWSDEMO.MAR]FLAG_DATA.MAR
SYS$SYSDEVICE:[VWSDEMO.CC]FLAG_DEMO.C
SYS$SYSDEVICE:[VWSDEMO.PAS]FONTS.PAS
SYS$SYSDEVICE:[VWSDEMO.FOR]FONTS2.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]FPOLY.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]FRECTANGLE.MAR
SYS$SYSDEVICE:[VWSDEMO.PLI]GRAY.PLI
```

```
SYS$SYSDEVICE:[VWSDEMO.MAR]IPARSE.MAR
SYS$SYSDEVICE:[VWSDEMO.CC]JTRACE.C
SYS$SYSDEVICE:[VWSDEMO.CC]KEYBOARD.C
SYS$SYSDEVICE:[VWSDEMO.CC]KILLPID.C
SYS$SYSDEVICE:[VWSDEMO.CC]LOADMENU.C
SYS$SYSDEVICE:[VWSDEMO.FOR]MASK-DEMO.FOR
SYS$SYSDEVICE:[VWSDEMO.CC]MENU.C
SYS$SYSDEVICE:[VWSDEMO.EPAS]MENU.EPAS
SYS$SYSDEVICE:[VWSDEMO.CC]MENUDEF.H
SYS$SYSDEVICE:[VWSDEMO.CC]MENUFILE.TXT
SYS$SYSDEVICE:[VWSDEMO.CC]MENU_C.C
SYS$SYSDEVICE:[VWSDEMO.FOR]MODE.FOR
SYS$SYSDEVICE:[VWSDEMO.CC]MOUSEAST.C
SYS$SYSDEVICE:[VWSDEMO.CC]MOUSEOVERHEAD.C
SYS$SYSDEVICE:[VWSDEMO.MAR]MOVEC.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]MOVER.MAR
SYS$SYSDEVICE:[VWSDEMO.CC]NOBANN_NOBORD.C
SYS$SYSDEVICE:[VWSDEMO.FOR]OR_MODE.FOR
SYS$SYSDEVICE:[VWSDEMO.FOR]PAN.FOR
SYS$SYSDEVICE:[VWSDEMO.CC]PATTERN.C
SYS$SYSDEVICE:[VWSDEMO.MAR]PENCIL.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]POLY.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]PSYCHO.FOR
SYS$SYSDEVICE:[VWSDEMO.FOR]QIX.FOR
SYS$SYSDEVICE:[VWSDEMO.FOR]QIXLOOP.FOR
SYS$SYSDEVICE:[VWSDEMO.CC]QUAD_DEMO.C
SYS$SYSDEVICE:[VWSDEMO.MAR]RAND.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]READCHAR.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]RECTANGLE.MAR
SYS$SYSDEVICE:[VWSDEMO.MAR]RLINE.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]ROSE.FOR
SYS$SYSDEVICE:[VWSDEMO.CC]RUBBER.H
SYS$SYSDEVICE:[VWSDEMO.CC]RUBBERBAND.C
SYS$SYSDEVICE:[VWSDEMO.CC]RUBBERBOX.C
SYS$SYSDEVICE:[VWSDEMO.CC]SCROLLFILE.C
SYS$SYSDEVICE:[VWSDEMO.CC]SCROLLINE.C
SYS$SYSDEVICE:[VWSDEMO.CC]SDYN.C
SYS$SYSDEVICE:[VWSDEMO.PAS]SETUP_COLORS.PAS
SYS$SYSDEVICE:[VWSDEMO.CC]SHAPES.C
SYS$SYSDEVICE:[VWSDEMO.MAR]SHIP_DATA.MAR
SYS$SYSDEVICE:[VWSDEMO.PLI]SHOWFONT.PLI
SYS$SYSDEVICE:[VWSDEMO.B32]SIMPLE_BANNER.B32
SYS$SYSDEVICE:[VWSDEMO.PLI]SPEED.PLI
SYS$SYSDEVICE:[VWSDEMO.FOR]SPIRO.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]SPRAY.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]STRPCHRT.FOR
SYS$SYSDEVICE:[VWSDEMO.PAS]TEXTPOS.PAS
SYS$SYSDEVICE:[VWSDEMO.EPAS]UISENTRY.EPAS
SYS$SYSDEVICE:[VWSDEMO.EPAS]UISUSRDEF.EPAS
SYS$SYSDEVICE:[VWSDEMO.CC]VWS_MENU.C
SYS$SYSDEVICE:[VWSDEMO.CC]VWS_SCROLL_BAR.C
SYS$SYSDEVICE:[VWSDEMO.FOR]WHEEL.FOR
SYS$SYSDEVICE:[VWSDEMO.FOR]WHEEL_UISDC.FOR
SYS$SYSDEVICE:[VWSDEMO.MAR]YCOOR.MAR
SYS$SYSDEVICE:[VWSDEMO.FOR]ZOOM.FOR
```

The following files are on the VWSDEMO Images kit:

```
SYS$SYSDEVICE:[VWSDEMO.FOR]ALL_COLORS.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]AST.EXE
SYS$SYSDEVICE:[VWSDEMO.B32]BANNER.EXE
SYS$SYSDEVICE:[VWSDEMO.B32]BOUNCE.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]BOXES.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]BUTTONAST.EXE
SYS$SYSDEVICE:[VWSDEMO.EPAS]CDOODLE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]CHROMA_TRIANGLE.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]CLOCK.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]CPETAL.EXE
SYS$SYSDEVICE:[VWSDEMO.EPAS]CPUZZLE.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]CUBE.EXE
SYS$SYSDEVICE:[VWSDEMO.B32]DATETIME.EXE
SYS$SYSDEVICE:[VWSDEMO.PAS]DECLANDER.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]DELAUNAY.EXE
SYS$SYSDEVICE:[VWSDEMO.B32]DEMOMENU.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]DESIGNS.EXE
SYS$SYSDEVICE:[VWSDEMO.EPAS]DESK.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]DIGICLOCK.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]DISPFONT.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]DISPLAY_LIST.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]DISTORT.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]DOILOOP.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]DOILYDC.EXE
SYS$SYSDEVICE:[VWSDEMO.EPAS]DOODLE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]DOPEXAMPLE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]DOP_FILLED_CIRCLES_C.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]DOP_FILLED_CIRCLES_FOR.EXE
SYS$SYSDEVICE:[VWSDEMO.PAS]DOP_FILLED_CIRCLES_PAS.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]FILLPAT.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]FLAG.EXE
SYS$SYSDEVICE:[VWSDEMO.PAS]FONTS.EXE
SYS$SYSDEVICE:[VWSDEMO.PAS]FONTS2.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]GRAY.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]JTRACE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]KEYBOARD.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]MASK-DEMO.EXE
SYS$SYSDEVICE:[VWSDEMO.EPAS]MENU.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]MENU_C.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]MODE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]MOUSEAST.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]MOUSEOVERHEAD.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]NOBANN_NOBORD.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]OR_MODE.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]PAN.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]PATTERN.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]PSYCHO.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]QIX.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]QIXLOOP.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]QUAD_DEMO.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]READCHAR.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]ROSE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]RUBBERBOX.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]SCROLLFILE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]SCROLLINE.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]SDYN.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]SHAPES.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]SHOWFONT.EXE
SYS$SYSDEVICE:[VWSDEMO.B32]SIMPLE_BANNER.EXE
SYS$SYSDEVICE:[VWSDEMO.PLI]SPEED.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]SPIRO.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]STRPCHRT.EXE
SYS$SYSDEVICE:[VWSDEMO.PAS]TEXTPOS.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]VWS_MENU.EXE
SYS$SYSDEVICE:[VWSDEMO.CC]VWS_SCROLL_BAR.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]WHEEL.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]WHEEL_UISDC.EXE
SYS$SYSDEVICE:[VWSDEMO.FOR]ZOOM.EXE
```

```
SYS$SYSDEVICE:[VWSDEMO.COM]BANNER.COM
SYS$SYSDEVICE:[VWSDEMO.COM]BOUNCE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]BOXES.COM
SYS$SYSDEVICE:[VWSDEMO.COM]CLOCK.COM
SYS$SYSDEVICE:[VWSDEMO.COM]CPUZZLE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]CUBE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DATETIME.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DECLANDER.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DEFINE_FONTS.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DEMOLOOP.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DEMOMENU.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DEMOMENU.DAT
SYS$SYSDEVICE:[VWSDEMO.COM]DEMOMENU2.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DIGICLOCK.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DISPFONT.COM
SYS$SYSDEVICE:[VWSDEMO.COM]DOILYDC.COM
SYS$SYSDEVICE:[VWSDEMO.COM]FILLPAT.COM
SYS$SYSDEVICE:[VWSDEMO.COM]GRAY.COM
SYS$SYSDEVICE:[VWSDEMO.COM]JTRACE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]PATTERN.COM
SYS$SYSDEVICE:[VWSDEMO.COM]QIX.COM
SYS$SYSDEVICE:[VWSDEMO.COM]QIXLOOP.COM
SYS$SYSDEVICE:[VWSDEMO.COM]ROSE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]RUN_DOODLE.COM
SYS$SYSDEVICE:[VWSDEMO.COM]SHOWFONT.COM
SYS$SYSDEVICE:[VWSDEMO.COM]SIMPLE_BANNER.COM
SYS$SYSDEVICE:[VWSDEMO.COM]SPIRO.COM
SYS$SYSDEVICE:[VWSDEMO.COM]STRIP.COM
```

Index

A

AST
  modifying the number of • 4–10
AUTOGEN
  running • 4–5

B

Buffered I/O
  modifying the number of • 4–11

C

Channel
  modifying the number of • 4–10
Cluster
  installing on a • 3–1
Console display • 2–9
Console-mode prompt • 2–9

D

DECnet option • 2–10
DECWindows
  installing • 1–1, 2–1, 3–1
Direct I/O
  modifying the number of • 4–11

F

F2 function key • 4–1
Font
  adding to the system list • 4–15
  compiling • 4–13
  determining block size • 4–15
  installing
    shareable • 4–14
  process-based • 4–11
Font
  process-based (Cont.)
    shareable • 4–11
  system • 4–12
  tuning
    shareable • 4–15
  user-defined
    adding • 4–11
  using shareable process-based • 4–14
  using within a process • 4–13
Font list • 4–12
Font Utility (FONT) • 4–12
  invoking • 4–16
  loading fonts • 4–16

M

Management and tuning • 4–1 to 4–16
Messages
  startup • 2–9
MODPARAMS.DAT
  modifying • 4–4, 4–7, 4–8

O

Operator window • 2–9
  color and intensity functions • 4–2
  connecting to • 4–2
  erasing • 4–1
  F2 function key • 4–2
  how to use • 4–1 to 4–2

S

Sample installation • B–1
System
  font list • 4–12
  font list tuning • 4–16
System parameter
  modifying CHANNELCNT • 4–10
  modifying GBLPAGES • 4–7
  modifying GBLPAGFIL • 4–7

System parameter (Cont.)
    modifying GBLSECTIONS • 4–7
    modifying NPAGEDYN • 4–7
    modifying PAGEDYN • 4–4
    modifying PQL_MASTLM • 4–10
    modifying PQL_MBIOLM • 4–11
    modifying PQL_MDIOLM • 4–11

T

Tuning the workstation • 4–1 to 4–16

V

VMS Workstation Software
    files installed • A–1
    fonts installed • A–3
    installing • 2–1 to 2–9, 2–9, 2–10
    media • 1–1
    preparing to install • 1–1

W

Window
    changing memory size • 4–2
        on color systems • 4–5
        on intensity systems • 4–5
        on monochrome systems • 4–3
    increasing the number of • 4–6
    operator display • 2–9
Workstation setup
    window memory size • 4–2

Reader's Comments

This form is for document comments only. Digital will use comments submitted on this form at the company's discretion. If you require a written reply and are eligible to receive one under Software Performance Report (SPR) service, submit your comments on an SPR form.

Did you find this manual understandable, usable, and well organized? Please make suggestions for improvement.

Did you find errors in this manual? If so, specify the error and the page number.

Please indicate the type of user/reader that you most nearly represent:

- ☐ Assembly language programmer
- ☐ Higher-level language programmer
- ☐ Occasional programmer (experienced)
- ☐ User with little programming experience
- ☐ Student programmer
- ☐ Other (please specify)__________

Name__________ Date__________

Organization__________

Street__________

City__________ State__________ Zip Code or Country__________

Do Not Tear - Fold Here and Tape

digital™

No Postage
Necessary
if Mailed in the
United States

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO 33 MAYNARD MASS

POSTAGE WILL BE PAID BY ADDRESSEE

VWS Engineering/Documentation
Digital Equipment Corporation
5 Wentworth Drive GFS/L20
Hudson, NH 03051-4929

Do Not Tear - Fold Here

digital

Software Product Description

PRODUCT NAME: **VMS Workstation Software, Version 4.2** **SPD 28.06.10**

DESCRIPTION

VMS Workstation Software (VWS) is a VMS layered product that provides windowing and graphics support for the VAXstation II, VAXstation II/GPX, VAXstation 2000, VAXstation 3100, VAXstation 3200 and VAXstation 3500.

VWS supports VAXstations with windowing, VT200 series terminal emulation with technical character set, TEK4014® and TEK4125® terminal emulation, a simple mouse-based human interface for window manipulation, a graphics programming interface, Hard Copy (HCUIS) for applications requiring hardcopy output, VWS/SIGHT (an easy-to-use tool that enables the user to create graphics), and a Migration Tools kit to assist users in migrating UIS applications to the DECwindows platform.

Features

- Multiple Overlapping Windowing System — By means of the mouse, multiple windows can be created, moved, overlapped and resized at will. Windows can be popped to the top of the screen or pushed to the bottom of the screen stacking order. Windows can also be created and manipulated under program control.
- VT200 series terminal and TEK4014, TEK4125 Emulation — Multiple VT200, series terminals or TEK4014 windows can be present on the screen at the same time.
- ReGIS Color Support — Provides VT240-compatible subset of video-ReGIS graphics. Hardcopy output is provided only through the UIS print screen service.
- Simple User Interface — By means of the mouse, the keyboard can be switched to an alternate window, new VT200-series windows created, or the screen printed to an LA100, LA120, LA210, LA50, LA75 or LJ250 hardcopy devices.
- Workstation Setup — Enables the workstation characteristics to be configured to customer requirements.
- On-line Help is available on the user interface.
- Programming Interface — For workstation application development, a graphics and windowing programming interface called User Interface Service (UIS) is provided.
- Device Driver Interface — For applications with special requirements, a device driver interface to the graphics hardware is provided.
- Hardcopy Graphics Support — For applications requiring the generation of hardcopy output of graphics, Hardcopy UIS (HCUIS) is provided. HCUIS enables applications to translate UIS display lists to the formats needed to print them on a variety of hardcopy devices. The HCUIS routines also enables applications to create UIS files from the UIS display list. The HCUIS DCL interface also enables users to translate UIS files to the formats needed to print them on a variety of hardcopy devices.
- SIGHT (Simple Interactive Graphics Handling Tool) — Enables the user to create graphics on a workstation. These graphics are stored in files for graphic output to hardcopy devices. These files can then be updated and/or transferred/copied to other supported VAXstations.
- UIS to DDIF Converter — This tool allows the conversion of .UIS files, created by Hardcopy UIS (this includes SIGHT files) into any output format supported by the CDA Converter Library.
- DECwindows X11 Server — Enables the user running VWS to create a VWS window that is an entire DECwindows environment. The user can then cycle between this "window" and other VWS windows offering the ability to run applications in both environments without rebooting.
- A Guide to Migrating VWS Applications to DECwindows — This document provides information to aid software developers and architects in migrating existing UIS applications to the DECwindows platform by pointing out the differences between the two platforms and by providing programming examples in a ported application written specifically for this purpose.

® TEK4014 and TEK4125 are registered trademarks of Tektronix, Inc.

digital software

August 1989
AE-ED17K-TE

VMS Workstation Software Read Me First

Order Number: AV-GS96I-TE

Software Version:	VMS Workstation Software Version 4.2
Operating System:	VAX/VMS Version 5.0 and above
Software Version:	Example Migration Applications Version 1.0
Operating System:	VAX/VMS Version 5.1 and above
Software Version:	UIS to DDIF Converter Version 1.0
Operating System:	VAX/VMS Version 5.1 and above
Software Version:	DECwindows/X11 Server Version 1.0
Operating System:	VAX/VMS Version 5.1 or 5.2

DIGITAL EQUIPMENT CORPORATION

OPTION NUMBER

QA-A96AA-WM.4.2

PAGE NUMBER 1

SOFTWARE BILL OF MATERIAL

INTAINER: EUROPEAN SOFTWARE DISTRIBUTION CENTRE
(MERVUE, GALWAY)

EFF
DATE: 13-Nov-89

OPTION TITLE: VMS/WS SFTWR V4.2 UPD 16MT9

COMMENT:

QTY	PART CODE	PART TITLE
1	AV-LU05 B-TE	SERVICE UPDATE PAK LTR
1	AV-MA59 A-TE	VWS/WS/SW UPDATE KEY
1	BB-JK75 H-BE	VMS/WS/SW V4.2 BIN 16MT9
1	QA-A96A A-WZ.4.2	VMS/WS SFTWR V4.2 UPD DOC

ONTENTS:

Service Update PAK (Product Authorization Key) Cover Letter
AV-LU05B-TE

IMPORTANT INFORMATION:
PLEASE READ

The enclosed Service Update PAK (Product Authorization Key) is an IMPORTANT document. As of VMS Version 5.0, many DIGITAL software products, including VMS, require product license registration in the LICENSE database, a new database provided by VMS specifically for license information. You must register information from the enclosed Service Update PAK using the VMS License Management Facility (LMF), a software license management tool on the VMS operating system. LMF includes the License Management Utility (LICENSE), and the command procedure VMSLICENSE.COM, used to register, manage, and track software licenses on line.

Customers who order new software as of VMS Version 5.0 generally receive a License Product Authorization Key (PAK) which must be registered in the LICENSE database. Because you have a service contract with Digital for one of the VMS system integrated products (SIPs) or one of the VMS layered products that now use LMF, you are receiving a Service Update PAK (SUP) instead of a License PAK.

A Service Update PAK is an interim PAK that you must register along with installation of a product updated to use the LMF. This SUP is for a product previously licensed on a VMS system or VAXcluster environment. If you have not received a License PAK for this particular system integrated product or layered product, register this Service Update PAK. Register it one time only, along with installation of the product update. If you have received a License PAK, and you have registered it with the LMF, then you may disregard this Service Update PAK (SUP).

Use of the Service Update PAK is subject to the terms appearing on the back of the document. If a product is licensed for a subset of nodes within a VAXcluster environment, Digital recommends that you use features of LMF to control access to the product from licensed nodes only.

In the future, you will receive a License PAK, a permanent PAK that supersedes this Service Update PAK. The License PAK is a valuable proof of purchase for your software license. You should store the License PAK in a safe place for record keeping and license upgrade purposes.

For instructions on how to register PAKs and Service Update PAKs, see the VMS Version 5.2 Release Notes (order number AA-LB22B-TE), or the VMS License Management Utility Manual (order number AA-LA33B-TE), part of the VMS Base Documentation Set.

You can find additional details on PAKs and their role in license management in the Practical Guide to License Management. You can order additional copies of this guide through your local Digital Sales Office. The part number is EJ-31899-76.

©Digital Equipment Corporation, 1989. All rights reserved.

DIGITAL EQUIPMENT CORPORATION

OPTION NUMBER

QA-A96AA-WZ.4.2

PAGE NUMBER 1

SOFTWARE BILL OF MATERIAL

EFF
DATE: ALL

MAINTAINER: EUROPEAN SOFTWARE DISTRIBUTION CENTRE
(MERVUE, GALWAY)

OPTION TITLE: VMS/WS SFTWR V4.2 UPD DOC

COMMENT:

QTY	PART CODE	PART TITLE
1	AA-HX11 H-TE	VMS/WS/SW INSTALL GUIDE
1	AA-KP45 E-TE	VMS/WS/SW RELEASE NOTES
1	AA-MI66 A-TE	USING UIS TO DDIF CONVERTER
1	AA-MI67 A-TE	VWS GDE TO CONVERT UIS APP DW
1	AA-MM21 A-TE	USING DW/X11 SER FOR VWS
1	AE-ED17 K-TE	VMS/WS/SW V4.2 SPD 28.06.09
1	AE-LT76 C-TE	VMS/WS/SW V4.2 SSA 28.06.10-A
1	AV-GR47 E-TE	VMS/WS/SW SPN/DIV/SET
1	AV-GS96 I-TE	'READ ME FIRST'
1	AV-JK76 H-TE	VMS/WS/SW COVER LETTER
1	99-0764 2-01	BINDER, 1.5" 8.5 X 11

CONTENTS:

VMS Workstation Software Version 4.2 Cover Letter

Order No.: AV-JK76H-TE

Strategic Software Products Engineering is happy to introduce Version 4.2 of VMS Workstation Software.

On the kit, you will find all software necessary to install VWS Version 4.2 on your workstation.

NOTE

The Version 4.2 kit is not limited to VWS, but includes the following new components that will aid you in migrating from VWS to DECwindows:

- **DECwindows/X11 server for VWS**
- **UIS to DDIF converter**
- **Guide to migrating VWS applications to DECwindows**

VMS Workstation Software Version 4.2 incorporates both new and revised documentation.

1. New Manuals:
    - *A Guide to Migrating VWS Applications to DECwindows*, AA-MI67A-TE
    - *UIS to DDIF Converter Installation and User's Guide*, AA-MI66A-TE
    - *DECwindows/X11 Server for VWS Installation and User's Guide*, AA-MM21A-TE
2. Revised Manuals:
    - *VMS Workstation Software Read Me First*, AV-GS96I-TE
    - *VMS Workstation Software Installation Guide*, AA-HX11H-TE
    - *VMS Workstation Software Release Notes*, AA-KP45E-TE

Before you attempt to install the VMS Workstation Software Version 4.2 kit, be sure to read the ''Read Me First'' pages included with your documentation.

Contents of Your Software Kit

- Your VWS installation kit consists of the following media:
    - Ten RX33 floppy disks (be sure to use them all), or
    - One TK50 tape cartridge, or
    - One magtape.
- Your DECwindows Migration Tools kit consists of the following media:
    - If your installation kit is on RX33 floppy disks, the migration tools kit consists of four additional RX33 floppy disks. One floppy includes the UIS to DDIF conversion tools and the DECwindows/X11 server for VWS; three floppies contain the software that accompanies *A Guide to Migrating UIS Applications to DECwindows*.
    - If your installation kit is on TK50 tape cartridge or magtape, the migration tools kit is on the same tape or tape cartridge as the VWS installation kit.

- Your DEMO kit consists of the following media:
  - If your installation kit is on RX33 floppy disks, the DEMO kit consists of three additional RX33 floppy disks.
  - If your installation kit is on TK50 tape cartridge or magtape, your DEMO kit is also on that tape cartridge or magtape.

CAUTION

If you receive the following warning message:

```
%SYSTEM-W-NOSUCHFILE, no such file
 \VMI$ROOT:[SYSLIB]UISSHR.EXE\
```

and it causes your installation to fail, please reinstall VWS after executing the following commands:

```
$ INSTALL REMOVE SYS$SYARE:UISSHR.EXE
$ INSTALL CREATE SYS$SHARE:UISSHR.EXE
```

The original installation failed because INSTALL could no longer locate the file associated with the installed file header information. The above commands will ensure that INSTALL can find the current copy of the file.

PROGRAMMING NOTE:

In the VWS Version 4.1 release, all the DOP definitions in VWSSYSDEF were inadvertently changed to uppercase. This created an incompatibility for case-sensitive programming languages. The VWS development team apologizes for any inconvenience this might have caused you. The DOP definitions will remain uppercase for VWS Version 4.2 and any future releases.

REMEMBER:

- **To use VWS V4.2, you must have VMS V5.0 or later installed on your system.**
- **To use the UIS to DDIF conversion tools, you must have VMS 5.1 or later installed on your system.**
- **To use the DECwindows/X11 server for VWS, you must have VMS 5.1 or VMS 5.2 installed on your system.**
- **To use the migration tools in this kit, you must have DECwindows installed on your system. If you are running VMS V5.1, you must install DECwindows separately. If you are running VMS V5.2, DECwindows can be installed as part of the normal VMS installation.**